

TM 9-1220-221-34/5

TECHNICAL MANUAL

DIRECT SUPPORT AND GENERAL SUPPORT MAINTENANCE MANUAL

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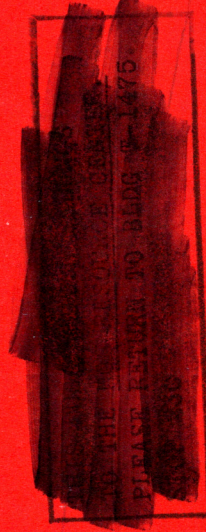
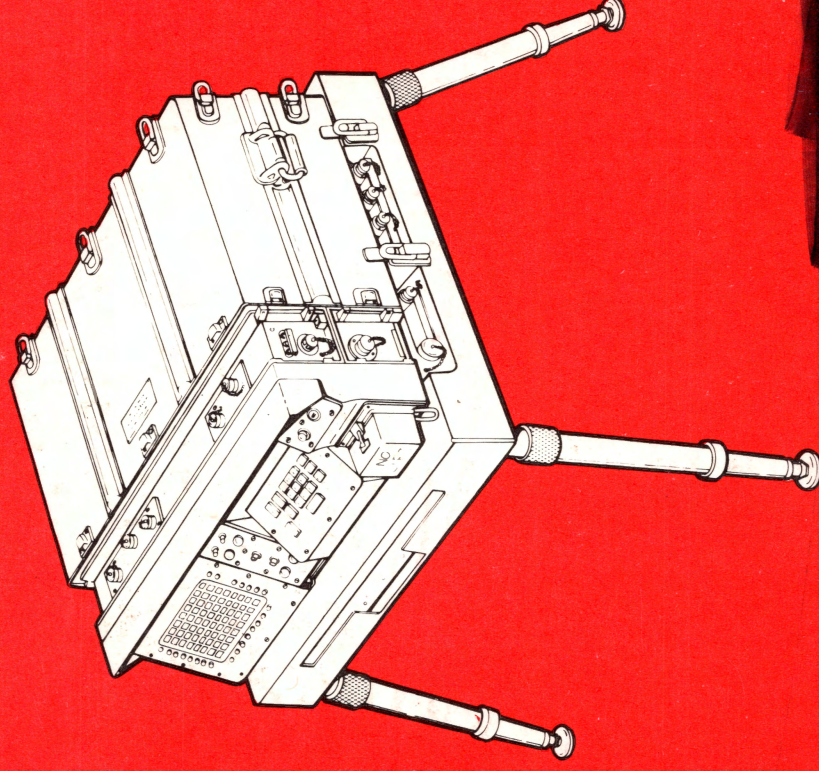
PROGRAM  
PRINTOUT OF  
TEST TAPE E  
(4931-00-687-8514)

FOR

COMPUTER,  
GUN DIRECTION,  
M18

(FADAC)

(1220-00-448-0131)



HEADQUARTERS, DEPARTMENT OF THE ARMY

MAY 1981



## **WARNING**



### **HIGH VOLTAGE**

is used in the operation of this equipment.

### **DEATH ON CONTACT**

may result if personnel fail to observe safety precautions.

Never work on electronic equipment unless there is another person nearby who is familiar with the operation and hazards of the equipment and who is competent in administering first aid. When the technician is aided by operators, he must warn them about dangerous areas.

Whenever possible, the power supply to the equipment must be shut off before beginning work on the equipment. Take particular care to ground every capacitor likely to hold a dangerous potential. When working inside the equipment after the power has been turned off, always ground every part before touching it.

Be careful not to contact high-voltage connections of 220-volt ac input connections when installing or operating this equipment.

Whenever the nature of the operation permits, keep one hand away from the equipment to reduce the hazard of current flowing through vital organs of the body.

Do not be misled by the term "low voltage". Potentials as low as 50 volts may cause death.

For artificial respiration, refer to FM 21-11.



DIRECT SUPPORT AND GENERAL SUPPORT MAINTENANCE MANUAL

TEST TAPE E PROGRAM PRINTOUT

FOR

COMPUTER, GUN DIRECTION, M18

(FADAC)

REPORTING ERRORS AND RECOMMENDING IMPROVEMENTS

You can help improve this manual. If you find any mistakes or if you know of a way to improve the procedures, please let us know. Mail your letter, DA Form 2028 (Recommended Changes to Publications and Blank Forms), or DA Form 2028-2 located in the back of this manual direct to: Commander, US Army Armament Materiel Readiness Command, ATTN: DR SAR-MAS, Rock Island, IL 61299. A reply will be furnished to you.

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\*This manual supersedes TM 9-1220-221-34/5, 6 March 1964, including all changes.







# CHAPTER 1

## INTRODUCTION

### 1-1. SCOPE

These instructions provide information and guidance for personnel responsible for direct support and general support maintenance of the gun direction computer M18 (FADAC). These instructions provide the current complete test tape E program printout. This printout corresponds to the information in the associated punched tape used in semiautomatic and manual isolation of malfunctions in the FADAC.

### 1-2. REFERENCES

- a. For a general description of the FADAC and its operation and maintenance, refer to TM 9-1220-221-10-1, TM 9-1220-221-10-2, TM 9-1220-221-20&P, and TM 9-1220-221-34/1.
- b. TM 9-1220-221-34/1 contains a list of references, including supply manuals, technical manuals, and other available publications applicable to the FADAC, its support equipment, and associated kits and equipment.

### 1-3. TAPE CARTRIDGE ASSEMBLY

- a. Description and Identification. Punched paper tape is supplied in a tape cartridge 8 inches high, 9 inches wide, and 1-1/2 inches deep. The cartridge is equipped with an adjustable filler to accommodate tapes of various lengths. A number on the cartridge identifies the assembly. The tape is identified by a number printed at the start and finish of the tape.
- b. Nature of Tests. When run in association with the signal data reproducer AN/GSQ-64 (SDR) and the computer logic unit test set AN/GSM-70 (FALT), the tapes provide a test of circuits within the FADAC. The circuits tested are noted in the tape program printout listed in chapter 3.
- c. Assemblies Tested. If the tape stops when running a test and an error indicator flashes on the FALT, the printout should be consulted. The printout indicates the possible malfunctioning assembly or assemblies according to the test number (marker number) being performed when the error occurred.



## CHAPTER 2

# DIRECT SUPPORT AND GENERAL SUPPORT MAINTENANCE

## USING TAPE-PROGRAMMED TEST TAPE E

### 2-1. SUPPORT EQUIPMENT

a. **Controls and Indicators.** A complete description of the controls and indicators of the SDR and the FALT, including control box C-4020/GSM-70, is found in the operation and organizational maintenance manuals for these units.

#### b. General Operation.

(1) A semiautomatic tape-programmed test for the purpose of malfunction isolation may be performed. Load the tape cartridge assembly containing the test tape in the SDR. Connect the equipment in accordance with the instructions on the decal on top of the light shield of the FALT.

(2) Follow instructions given in TM 9-1220-221-20 & P, or as specified in chapter 3. The equipment may then be energized and the tape run by moving the OPERATE control on the FALT to RESET, then to TAPE. In direct support and general support maintenance shops, this will normally be done with the control box C-4020 mounted on the half-hinge on the right side of the FALT and connected using the cable provided in the control box case.

(3) When the test detects an improper result (malfunction), the tape automatically stops, an ERROR lamp on the FALT flashes, and a marker number and index number are displayed. The corresponding marker number is then determined from the printout. The test in process is determined by counting the number of columns on the printout which have occurred since the last marker number, up to the index number displayed.

played. The step in the test process which resulted in an error is then known. The test may be repeated by moving the OPERATE control to MAN (manual) and entering the commands, using the control box.

### CAUTION

No attempt should be made by field maintenance personnel to replace defective components on the circuit boards. Not only can replacement of components have a detrimental effect on the operation of the circuit involved, but indiscriminate use of a soldering iron can cause further damage to the circuits as well as surrounding components. Defective boards should be forwarded through normal supply channels to depot shops for repair.

(4) Alternate tests may be commanded by manual operation of the control box. The etched circuit board in the board (slot) number indicated by the printout may then be removed and replaced by a spare. The test may then be rerun.

(5) If the program continues beyond the former point of error, it may be assumed that the replacement board has cleared the trouble.

(6) For a detailed discussion of the operation and analysis in a typical situation, see TM 9-1220-221-34/1.

c. **Control Box C-4020/GSM-70.** The test tape may be run while the control box is attached to the FALT. The operator may insert commands and generate measurements by means of manual operation of the control box. For detailed procedures, refer to TM 9-4931-204-34/1.



## 2-2. ORGANIZATION OF THE PROGRAM PRINTOUT

a. **Glossary of Special Terms and Abbreviations.** Special terms and abbreviations, together with an explanation of their meaning, are listed in chapter 3.

b. **Reading the Program Printout.**

(1) **General instructions.** The printout is organized in 10 columns. The instructions are self-explanatory. The number on a line by itself indicates the marker number. To determine test progress, the **MARKER-INDEX** number is read from the **FALT** display. The marker

number is then found in the printout (see chapter 3). All columns are read from left to right up to the index number displayed. That term in the column so determined is the command, action, or measurement in progress when the tape is stopped. Characters or other information not aligned vertically with the 10 columns are not counted in making a determination.

(2) **Example.** The **ERROR** indicator of the **FALT** flashes and the **MARKER-BOARD #1** reads 345 and the **INDEX-BOARD #2** reads 110. Turn to page 3-122 where marker 345 is. Find marker 345. Find the eleventh row of terms. Follow it over to the tenth term where you will find the term **1SF**, which is the command in progress when the tape stopped.



# CHAPTER 3

## TEST TAPE E PROGRAM PRINTOUT

### 3-1. GENERAL

Section III represents the printout of tape-programmed test B. Identification information with possible revision letters or dates is given in the opening lines of the listing, together with connection information and instructions. Check identification information in the printout against identification information on the tape. The printout must correspond to identification information on the start and finish ends of the tape.

### 3-2. SPECIAL TERMS AND ABBREVIATIONS

- a. The words "tape reader" refer to the SDR.
- b. The words "Manual Entry Unit" refer to the control box C-4020/GSM-70.
- c. Numbers separated by a hyphen (e.g., 015-034) refer to a marker and index number combination.
- d. Symbols followed by a hyphen (e.g., B1-) refer to the complement or inversion of the logic symbol; sometimes referred to in printed text as the prime, or followed by a prime (').

## Section I. INTRODUCTION

- e. The words "shorting cable" refer to the branched wiring harness. This harness has three plugs marked P10, P16, and P17 which fit corresponding receptacles on the FADAC. The harness is stored in the rear cover and is part of the FALT.
- f. The words "mechanical tape reader" refer to the punched tape reader located on the lower right corner of the main control panel of the FADAC. The tape sensing lever of this reader rides high when tape is present. When tape is not present, the tape sensing lever roller wheel falls into a slot. In this manner, electrical circuits within the reader sense the presence or absence of tape. It is possible to place a short piece of tape underneath the tape sensing lever in such a way that it is not engaged by the sprocket teeth and will not move when the sprocket teeth turn. In this way, the electrical equivalent of the continuous presence of tape for an indefinite period may be simulated. If, however, the short piece of tape used is of improper width or too thick so that tape sensing lever rides abnormally high, the equivalent of excessive tape tension is simulated, which activates certain inhibit circuits.

## Section II. OPERATOR INSTRUCTIONS

### 3-3. INITIAL FALT SETUPS FOR FADAC TESTING

- a. CONFIDENCE TEST switch in OFF position.
- b. TEST NORMAL indicator lamp is lit.
- c. DELAY START switch is OFF position.
- d. PROGRAM SKIP A, B, and C switches in OFF position.
- e. WR SW switch in OFF position.
- f. HOMING SELECT switch in MARKER INDEX position.
- g. HOMING switch in OFF position.
- h. MARGINAL TEST switch in OFF position.
- i. PRESET STOP switch in NORM position.

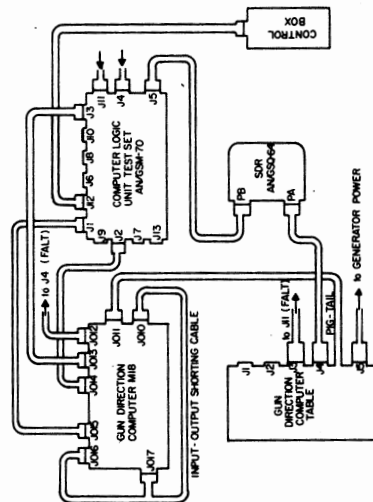
- (1) FALT J4 to FADAC J12.
  - (2) FALT J3 to FADAC J13.
  - (3) FALT J2 to FADAC J14.
  - (4) FALT J1 to FADAC J15.
- c. Depress matrix buttons A and 1.
  - d. Depress weapon type button 1.
  - e. Depress battery button A.

f. The input-output shorting cable shall be connected between J10, J16, and J17 of FADAC.

### 3-4. INITIAL FADAC SETUPS FOR FALT TESTING

- a. The memory cable plugs P2 thru P8 are connected to the memory.

- b. The FALT cables shall be connected to FADAC as follows:



- g. Energize the SDR, FALT, and FADAC in that order.
- h. Check both internal and external voltages using the VOLTAGE MONITOR. Ensure that MARGINAL TEST switch on FADAC is in OFF position when checking external voltage with VOLTAGE MONITOR.
- i. Start the tape reader.



Following is a list of codes used to indicate what associated equipment is to be replaced when an error occurs.

Flip-flop logic tests on logic for AP, D, C3, C7, nixie indicator tests, write switches, read switches, memory plugs, MW1, MW0, and memory.

**Start the tape reader.**

| Tape stops | Marker number |
|------------|---------------|
| 1          | 1             |
| 2          | 2             |
| 3          | 3             |
| 4          | 4             |
| 5          | 5             |
| 6          | 6             |
| 7          | 7             |
| 8          | 8             |
| 9          | 9             |
| 10         | 10            |
| 11         | 11            |
| 12         | 12            |
| 13         | 13            |
| 14         | 14            |
| 15         | 15            |
| 16         | 16            |
| 17         | 17            |
| 18         | 18            |
| 19         | 19            |
| 20         | 20            |
| 21         | 21            |
| 22         | 22            |
| 23         | 23            |
| 24         | 24            |
| 25         | 25            |
| 26         | 26            |
| 27         | 27            |
| 28         | 28            |
| 29         | 29            |
| 30         | 30            |
| 31         | 31            |
| 32         | 32            |
| 33         | 33            |
| 34         | 34            |
| 35         | 35            |
| 36         | 36            |
| 37         | 37            |
| 38         | 38            |
| 39         | 39            |
| 40         | 40            |
| 41         | 41            |
| 42         | 42            |
| 43         | 43            |
| 44         | 44            |
| 45         | 45            |
| 46         | 46            |
| 47         | 47            |
| 48         | 48            |
| 49         | 49            |
| 50         | 50            |
| 51         | 51            |
| 52         | 52            |
| 53         | 53            |
| 54         | 54            |
| 55         | 55            |
| 56         | 56            |
| 57         | 57            |
| 58         | 58            |
| 59         | 59            |
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| 63         | 63            |
| 64         | 64            |
| 65         | 65            |
| 66         | 66            |
| 67         | 67            |
| 68         | 68            |
| 69         | 69            |
| 70         | 70            |
| 71         | 71            |
| 72         | 72            |
| 73         | 73            |
| 74         | 74            |
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| 76         | 76            |
| 77         | 77            |
| 78         | 78            |
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| 81         | 81            |
| 82         | 82            |
| 83         | 83            |
| 84         | 84            |
| 85         | 85            |
| 86         | 86            |
| 87         | 87            |
| 88         | 88            |
| 89         | 89            |
| 90         | 90            |
| 91         | 91            |
| 92         | 92            |
| 93         | 93            |
| 94         | 94            |
| 95         | 95            |
| 96         | 96            |
| 97         | 97            |
| 98         | 98            |
| 99         | 99            |
| 100        | 100           |

[illegible]

|     |   |   |                                       |                                    |                                   |                                       |                                      |  |                                      |                                       |
|-----|---|---|---------------------------------------|------------------------------------|-----------------------------------|---------------------------------------|--------------------------------------|--|--------------------------------------|---------------------------------------|
| 006 | OSA<br>AK<br>C2<br>1TF<br>1SA<br>C5<br>A0       | CR5<br>MN<br>B6<br>AP<br>AP<br>02<br>LO | K<br>T0<br>B4<br>03<br>06<br>C7<br>B3 | E<br>C5<br>C3<br>03<br>D1<br>OE18  | 05<br>02<br>IX<br>AX<br>NX<br>TSA | 04<br>CL7<br>B2<br>C4<br>CL7<br>1E18  | D<br>DC<br>B1<br>TP<br>CR4<br>1TF    | TX<br>AX<br>OE18<br>MN<br>CR3<br>AP    | AC<br>TSO<br>1SA<br>AK<br>CR6<br>03  | TP<br>CR2<br>1E18<br>C3<br>TSO<br>.   |
|     | OSA<br>C5<br>B4<br>04<br>1SA<br>TX<br>CR6<br>04 | MN<br>02<br>C3<br>AP<br>C3<br>TSO<br>.  | K<br>CL7<br>IX<br>AK<br>C5<br>A0      | E<br>DC<br>B2<br>06<br>02<br>LO    | 05<br>AX<br>B1<br>04<br>C7<br>B3  | 03<br>TSO<br>OE18<br>TP<br>D1<br>OE18 | AC<br>CR5<br>1SA<br>AX<br>NX<br>TSA  | TX<br>CR2<br>1E18<br>C4<br>CL7<br>1E18 | D<br>C2<br>1TF<br>CR5<br>CR4<br>1TF  | T0<br>B6<br>AP<br>D<br>CR3<br>AP<br>. |
| 007 | OSA<br>C5<br>B4<br>05<br>1SA<br>TX<br>CR6<br>05 | AK<br>02<br>C3<br>AP<br>C3<br>TSO<br>.  | K<br>CL7<br>IX<br>MN<br>C5<br>A0      | E<br>DC<br>B2<br>06<br>02<br>LO    | 05<br>AX<br>B1<br>04<br>C7<br>B3  | 03<br>TSO<br>OE18<br>TP<br>D1<br>OE18 | AC<br>CR5<br>1SA<br>AX<br>NX<br>TSA  | TX<br>CR2<br>1E18<br>C4<br>CL7<br>1E18 | D<br>C2<br>1TF<br>CR5<br>CR4<br>1TF  | T0<br>B6<br>AP<br>D<br>CR3<br>AP<br>. |
|     | OSA<br>D<br>B6<br>06<br>1SA<br>MN<br>A0         | C3<br>AK<br>B4<br>AP<br>AP<br>AK<br>LO  | C5<br>MN<br>IX<br>06<br>C7<br>B3      | K<br>CL7<br>B2<br>TX<br>D1<br>OE18 | E<br>DC<br>B1<br>TP<br>NX<br>TSA  | 05<br>AX<br>OE18<br>T0<br>CL7<br>1E18 | 04<br>TSO<br>1SA<br>AX<br>CR4<br>1TF | 03<br>CR5<br>1E18<br>C4<br>CR3<br>AP   | 02<br>CR2<br>1TF<br>CR5<br>CR6<br>06 | AC<br>C2<br>AP<br>D<br>TSO<br>.       |



Tape Marker  
stops number

|     |  |   |   |   |   |  |  |  |  |  |
|-----|--|---|---|---|---|--|--|--|--|--|
| 008 | OSA<br>AK<br>B4<br>07<br>TSA<br>D<br>TSO   | C7<br>MN<br>C3<br>AP<br>MN<br>A0  | K<br>CL7<br>IX<br>C5<br>AK<br>LO  | E<br>DC<br>B2<br>06<br>C3<br>B3   | 05<br>AX<br>B1<br>TX<br>D1<br>OE18  | 04<br>TSO<br>OE18<br>TP<br>NX<br>TSA                                     | 03<br>CR5<br>TSA<br>T0<br>CL7<br>1E18                                    | 02<br>CR2<br>1E18<br>AX<br>CR4<br>TTF                                      | AC<br>C2<br>TTF<br>C4<br>CR3<br>AP                                       | D<br>B6<br>AP<br>CR5<br>CR6<br>07  |
|     | OSA<br>D<br>B6<br>AP<br>TSA<br>C3<br>A0  | MN<br>AK<br>B4<br>08<br>AP<br>C5<br>L0  | AX<br>T0<br>C3<br>06<br>C7<br>B3  | K<br>C5<br>IX<br>02<br>D1<br>OE18   | E<br>CL7<br>B2<br>TP<br>NX<br>TSA   | 05<br>DC<br>B1<br>C4<br>CL7<br>1E18                                      | 04<br>TSO<br>OE18<br>04<br>TSO<br>OE18<br>CR5<br>CR4<br>TTF              | 03<br>CR5<br>TSA<br>03<br>CR5<br>TSA<br>D<br>CR3<br>AP                     | AC<br>C2<br>1E18<br>TX<br>CR6<br>08                                      | TX<br>C2<br>TTF<br>AK<br>TSO   |
| 009 | OSA<br>MN<br>B4<br>09<br>TSA<br>CR5<br>NX<br>TSA<br>OSA<br>MN<br>B6<br>AP<br>OSA<br>04<br>CR4<br>TTF | D1<br>C5<br>C3<br>AP<br>04<br>06<br>1E18<br>NX<br>T0<br>B4<br>10<br>AP<br>TX<br>CR3<br>AP | AK<br>02<br>IX<br>K<br>D<br>CR4<br>TTF<br>AK<br>C5<br>C3<br>K<br>MN<br>10 | AC<br>DC<br>B2<br>CL7<br>TX<br>CR3<br>AP<br>CL7<br>02<br>IX<br>D<br>03<br>TSO | TP<br>AX<br>B1<br>T0<br>MN<br>CR6<br>09<br>AC<br>DC<br>B2<br>AX<br>C3<br>A0 | TX<br>TSO<br>OE18<br>AX<br>03<br>TSO<br>TP<br>AX<br>B1<br>C4<br>C5<br>L0 | 06<br>CR5<br>TSA<br>C4<br>C3<br>A0<br>TX<br>TSO<br>OE18<br>E<br>02<br>B3 | 03<br>CR2<br>1E18<br>E<br>C5<br>L0<br>06<br>CR5<br>TSA<br>05<br>C7<br>OE18 | D<br>C2<br>TTF<br>05<br>02<br>B3<br>03<br>CR2<br>1E18<br>TP<br>D1<br>TSA | 04<br>B6<br>AP<br>TP<br>C7<br>OE18<br>04<br>C2<br>TTF<br>CR5<br>06<br>1E18 |





Tape Marker  
stops number

|     |  |  |   |   |  |  |  |  |  |  |
|-----|--|--|---|---|--|--|--|--|--|--|
| 012 | ISA<br>AK<br>LO<br>OSA<br>02<br>AX<br>1SA<br>1SA<br>AK<br>LO<br>OSA<br>03<br>DC<br>B1<br>1SA<br>C5<br>OE18 | AP<br>C5<br>B3<br>CR4<br>AC<br>TSO<br>1E18<br>AP<br>C3<br>B3<br>CR6<br>02<br>AX<br>OE18<br>AP<br>C7<br>1SA | TSO<br>C7<br>OE18<br>CR3<br>TP<br>C2<br>1TF<br>CR5<br>C5<br>OE18<br>CR5<br>AC<br>TSO<br>1SA<br>AX<br>D1<br>1E18 | C4<br>D1<br>1SA<br>TX<br>D<br>B6<br>AP<br>CR2<br>C7<br>1SA<br>CR3<br>TP<br>CR2<br>1E18<br>C4<br>NX<br>1TF | TP<br>NX<br>1E18<br>K<br>AK<br>B4<br>16<br>AX<br>D1<br>1E18<br>TX<br>D<br>C2<br>1TF<br>TP<br>CL7<br>AP | CR5<br>CL7<br>1TF<br>E<br>MN<br>C3<br>C4<br>NX<br>1TF<br>K<br>AK<br>B6<br>AP<br>D<br>CR4<br>17 | D<br>CR4<br>AP<br>06<br>TO<br>IX<br>TP<br>CL7<br>AP<br>E<br>MN<br>B4<br>17<br>AC<br>TSO<br>. | TX<br>CR3<br>15<br>05<br>C5<br>B2<br>D<br>CR6<br>16<br>06<br>TO<br>C3<br>MN<br>AO<br>. | AC<br>CR6<br>04<br>CL7<br>B1<br>AC<br>TSO<br>05<br>C5<br>IX<br>AK<br>LO<br>. | MN<br>AO<br>03<br>DC<br>OE18<br>MN<br>AO<br>04<br>CL7<br>B2<br>C3<br>B3<br>. |
| 013 | OSA<br>02<br>CR2<br>1E18<br>1SA<br>C3<br>LO<br>OSA<br>D<br>IX<br>1SA<br>C4<br>CR4<br>AP                    | C4<br>TP<br>C2<br>1TF<br>AP<br>C5<br>B3<br>AO<br>AK<br>B2<br>AP<br>CR5<br>CR3<br>19                        | AC<br>D<br>B6<br>AP<br>TX<br>C7<br>OE18<br>K<br>MN<br>B1<br>C5<br>D<br>CR6<br>.                                 | TSO<br>AK<br>B4<br>18<br>TO<br>D1<br>1SA<br>E<br>TO<br>OE18<br>C2<br>AC<br>TSO<br>.                       | K<br>MN<br>C3<br>AX<br>NX<br>1E18<br>06<br>CL7<br>1SA<br>B6<br>MN<br>LO<br>.                           | E<br>C5<br>IX<br>TP<br>CL7<br>1TF<br>05<br>DC<br>1E18<br>B4<br>AK<br>B3<br>.                   | 06<br>CL7<br>B2<br>CR5<br>CR4<br>AP<br>04<br>AX<br>1TF<br>TP<br>C7<br>OE18<br>.              | 05<br>DC<br>B1<br>D<br>CR3<br>18<br>03<br>TSO<br>AP<br>TX<br>D1<br>1SA<br>.            | 04<br>AX<br>OE18<br>MN<br>CR6<br>02<br>CR5<br>19<br>C3<br>NX<br>1E18<br>.    | 03<br>CR5<br>TSA<br>AK<br>AO<br>AC<br>CR2<br>AX<br>CL7<br>1TF<br>.           |
| 014 | OSA<br>AC<br>CR2<br>1SA<br>CR5<br>CR3<br>20<br>OSA<br>AC<br>CR5  | LO<br>D<br>IX<br>AP<br>D<br>CR6<br>AX<br>TP<br>CR2   | C5<br>AK<br>B2<br>C2<br>AC<br>TSO<br>B3<br>TX<br>C2   | K<br>MN<br>B1<br>B6<br>MN<br>AO<br>K<br>AK<br>C3  | E<br>TO<br>OE18<br>B4<br>AK<br>B3<br>.   | 06<br>CL7<br>TSA<br>TP<br>C7<br>OE18<br>06<br>TO<br>TSA  | 05<br>DC<br>1E18<br>TX<br>D1<br>1SA<br>05<br>C5<br>1E18                                      | 04<br>AX<br>1TF<br>C3<br>NX<br>1E18<br>04<br>CL7<br>1TF                                | 03<br>TSO<br>AP<br>AX<br>CL7<br>1TF<br>.                                     | 02<br>CR5<br>20<br>C4<br>CR4<br>AP<br>02<br>TSO<br>21                        |



## 018

|     |   |                                    |  |                                   |                                     |                              |   |                            |                                     |                       |
|-----|---|------------------------------------|--|-----------------------------------|-------------------------------------|------------------------------|---|----------------------------|-------------------------------------|-----------------------|
| 018 | TSA<br>02<br>OE18<br>AKA                      | AP<br>C7<br>TSA                    | 03<br>D1<br>1E18                             | D<br>NX<br>OTF                    | AX<br>CR4<br>AP                     | CR5<br>CR3                   | 04<br>CR6<br>OMDL                           | MN<br>AO<br>OMD            | C3<br>LO<br>06-                     | C5<br>B3              |
|     | TSA<br>C3<br>LO<br>05                         | AP<br>C5<br>B3                     | 05<br>02<br>OE18<br>AKA                      | 06<br>C7<br>TSA                   | 03<br>D1<br>1E18                    | D<br>NX<br>OTF               | AX<br>CR4<br>AP                             | CR5<br>CR3                 | 04<br>CR6<br>OMDL                   | MN<br>AO<br>OMD       |
|     | TSA<br>02<br>OE18<br>AKA                      | AP<br>C7<br>TSA                    | 06<br>D1<br>1E18                             | D<br>NX<br>OTF                    | AX<br>CR4<br>AP                     | CR5<br>CR3                   | 04<br>CR6<br>OMDL                           | MN<br>AO<br>OMD            | C3<br>LO<br>03-                     | C5<br>B3              |
|     | TSA<br>C3<br>LO<br>AKA                        | AP<br>C5<br>B3                     | TP<br>02<br>OE18                             | 06<br>C7<br>TSA                   | 03<br>D1<br>1E18                    | D<br>NX<br>OTF               | AX<br>CR4<br>AP                             | CR5<br>CR3                 | 04<br>CR6<br>TPB                    | MN<br>AO              |
| 019 | TSA<br>02<br>OE18<br>TSA<br>C3<br>LO<br>AKA   | AP<br>C7<br>TSA<br>AP<br>C5<br>B3  | CR5<br>D1<br>1E18<br>K<br>02<br>OE18<br>KIOC | 06<br>NX<br>OTF<br>E<br>C7<br>TSA | 03<br>CR4<br>AP<br>05<br>D1<br>1E18 | AX<br>CR3<br>04<br>NX<br>OTF | 04<br>CR6<br>D<br>CR4<br>AP                 | MN<br>AO<br>AX<br>CR3      | C3<br>LO<br>AKA<br>C4<br>CR6<br>ODO | C5<br>B3<br>MN<br>AO  |
|     | TSA<br>02<br>C5<br>B3<br>AKA                  | AP<br>02<br>OE18                   | K<br>C7<br>TSA                               | E<br>D1<br>1E18                   | 05<br>NX<br>OTF                     | 04<br>CR4<br>AP              | AX<br>CR3                                   | C4<br>AX<br>CR3            | MN<br>AO<br>OD                      | C3<br>LO              |
|     | TSA<br>02<br>OE18<br>AKA                      | AP<br>C7<br>TSA                    | K<br>D1<br>1E18                              | 06<br>NX<br>OTF                   | 03<br>CR4<br>AP                     | AX<br>CR3                    | 04<br>CR6<br>ODO                            | MN<br>AO<br>OD             | C3<br>LO<br>K                       | C5<br>B3              |
| 020 | TSA<br>02<br>OE18<br>AKA                      | AP<br>C7<br>TSA                    | E<br>D1<br>1E18                              | 06<br>NX<br>OTF                   | 03<br>CR4<br>AP                     | AX<br>CR3                    | 04<br>CR6<br>ODO                            | MN<br>AO<br>OD             | C3<br>LO<br>E                       | C5<br>B3              |
|     | TSA<br>D1<br>1E18<br>TSA<br>02<br>OE18<br>AKA | AP<br>NX<br>OTF<br>AP<br>C7<br>TSA | 03<br>CR4<br>AP<br>05<br>D1<br>1E18          | AX<br>CR3<br>06<br>NX<br>OTF      | 04<br>CR6<br>ODO<br>03<br>CR4<br>AP | MN<br>AO<br>OD<br>AX<br>CR3  | 04<br>CR6<br>ODO<br>06-<br>C4<br>CR6<br>ODO | C5<br>B3<br>MN<br>AO<br>OD | 02<br>OE18<br>AKA<br>C3<br>LO<br>05 | C7<br>TSA<br>C5<br>B3 |





## 023

[illegible]

|                                 |                            |                                |                 |                    |                 |                 |           |                     |                    |                      |    |
|---------------------------------|----------------------------|--------------------------------|-----------------|--------------------|-----------------|-----------------|-----------|---------------------|--------------------|----------------------|----|
| TOX-<br>1SA<br>MN<br>OE18<br>OX | AP<br>C7<br>1SA            | C5<br>D1<br>1E18<br>14 TOX-    | 06<br>NX<br>OTF | TX<br>CR4<br>AP    | TP<br>CR3       | 06<br>C5        | T0<br>CR6 | AX<br>A0            | C4<br>L0<br>05 AKA | CR5<br>B3            | 07 |
| 1SA<br>C4<br>L0<br>AKA          | AP<br>CR5<br>B3            | 05<br>D1<br>1E18<br>MN<br>OE18 | E<br>C7<br>1SA  | 05<br>D1<br>1E18   | 04<br>NX<br>OTF | 03<br>CR4<br>AP | 02<br>CR3 | AX<br>A0            | 06<br>OX           | AX<br>A0             | 05 |
| 026<br>1SA<br>MN<br>OE18        | AP<br>C7<br>1SA<br>14 TOX- | K<br>D1<br>1E18                | 06<br>NX<br>OTF | TX<br>CR4<br>AP    | TP<br>CR3       | 06<br>OX        | T0<br>CR6 | AX<br>A0<br>K       | C4<br>L0           | CR5<br>B3<br>05 AKA  |    |
| 1SA<br>MN<br>OE18               | AP<br>C7<br>1SA<br>14 TOX- | E<br>D1<br>1E18                | 06<br>NX<br>OTF | TX<br>CR4<br>AP    | TP<br>CR3       | 06<br>OX        | T0<br>CR6 | AX<br>A0<br>E       | C4<br>L0           | CR5<br>B3<br>05 AKA  |    |
| 1SA<br>D1<br>1E18               | AP<br>NX<br>OTF<br>18 TOX- | TX<br>CR4<br>AP                | TP<br>CR3       | T0<br>CR6<br>06 OX | AX<br>A0<br>06- | C4<br>L0        | C4<br>L0  | CR5<br>B3<br>05 AKA | MN<br>OE18         | C7<br>1SA<br>14 TOX- |    |
| 1SA<br>MN<br>OE18               | AP<br>C7<br>1SA<br>14 TOX- | TX<br>CR4<br>AP                | 06<br>NX<br>OTF | TX<br>CR4<br>AP    | TP<br>CR3       | 06<br>OX        | T0<br>CR6 | AX<br>A0<br>05      | C4<br>L0           | CR5<br>B3<br>05 AKA  |    |
| 027<br>1SA<br>MN<br>OE18        | AP<br>C7<br>1SA<br>14 TOX- | 03<br>D1<br>1E18               | 06<br>NX<br>OTF | TX<br>CR4<br>AP    | TP<br>CR3       | 06<br>OX        | T0<br>CR6 | AX<br>A0<br>03      | C4<br>L0           | CR5<br>B3<br>05 AKA  |    |
| 1SA<br>MN<br>OE18               | AP<br>C7<br>1SA<br>14 TOX- | 02<br>D1<br>1E18               | 06<br>NX<br>OTF | TX<br>CR4<br>AP    | TP<br>CR3       | 06<br>OX        | T0<br>CR6 | AX<br>A0<br>02      | C4<br>L0           | CR5<br>B3<br>05 AKA  |    |
| 1SA<br>D1<br>1E18               | AP<br>NX<br>OTF<br>08 MAX3 | 06<br>CR4<br>AP                | TP<br>CR3       | T0<br>CR6<br>06 OX | AX<br>A0<br>TX- | C4<br>L0        | C4<br>L0  | CR5<br>B3<br>05 AKA | MN<br>OE18         | C7<br>1SA            |    |
| 1SA<br>D1<br>1E18               | AP<br>NX<br>OTF            | 06<br>CR4<br>AP                | TX<br>CR3       | T0<br>CR6<br>06 OX | AX<br>A0<br>TX- | C4<br>L0        | C4<br>L0  | CR5<br>B3<br>05 AKA | MN<br>OE18         | C7<br>1SA<br>14 TOX- |    |







Tape stops  
Marker  
number

|     |   |  |   |  |  |  |  |  |  |   |
|-----|---|--|---|--|--|--|--|--|--|---|
| 033 | 1SA<br>04<br>A0<br>1SA<br>MN<br>LO  | AP<br>MN<br>LO<br>AP<br>C3<br>B3<br>05   | AK<br>C3<br>B3<br>CL7<br>C5<br>OE18<br>AKA<br>CL7<br>C5<br>OE18<br>AKA<br>K<br>C5<br>OE18     | CL7<br>C5<br>OE18<br>T0<br>AX<br>C7<br>1E18  | T0<br>02<br>1SA<br>AX<br>C7<br>1E18  | AX<br>C7<br>1E18<br>C4<br>NX<br>OTF                                      | C4<br>NX<br>OTF<br>E<br>C4<br>NX<br>OTF  | E<br>CR4<br>AP<br>05<br>CR3  | 05<br>CR3<br>09<br>KAK1<br>09<br>KAK1<br>09<br>KAK1<br>09<br>KAK1        | CR5<br>CR6<br>KAK1<br>04<br>A0<br>KC-   |
| 034 | 1SA<br>MN<br>LC<br>AKA<br>1SA<br>CR5<br>CR6<br>AC<br>1SA<br>04<br>A0            | AP<br>C3<br>B3<br>AP<br>04<br>A0<br>AP<br>MN<br>LO<br>AKA                              | K<br>C5<br>OE18<br>AC<br>MN<br>LO<br>NX<br>C3<br>B3<br>AK<br>C5<br>OE18<br>AKA<br>C5<br>OE18  | CL7<br>02<br>1SA<br>K<br>C3<br>B3<br>K<br>C5<br>OE18<br>AX<br>C7<br>1E18                         | AX<br>C7<br>1E18<br>CL7<br>C5<br>OE18<br>D<br>02<br>1SA<br>C4<br>D1<br>OTF | C4<br>NX<br>OTF<br>T0<br>02<br>1SA<br>AX<br>C7<br>1E18<br>E<br>CR4<br>AP | E<br>CR4<br>AP<br>C4<br>NX<br>OTF<br>C4<br>D1<br>OTF<br>05<br>CR3                                    | 05<br>CR3<br>09<br>TOA-<br>E<br>CR4<br>AP<br>05<br>CR3<br>10<br>KIO      | 05<br>CR3<br>09<br>TOA-<br>E<br>CR4<br>AP<br>05<br>CR3<br>10<br>KIO      | 04<br>A0<br>05<br>CR3<br>09<br>TOA-<br>E<br>CR4<br>AP<br>05<br>CR3<br>10<br>KIO |
| 035 | 1SA<br>C3<br>B3<br>1SA<br>C3<br>B3<br>1SA<br>C3<br>B3<br>1SA<br>04<br>A0<br>KIO | AP<br>C5<br>OE18<br>05<br>AKA<br>AP<br>C5<br>OE18<br>05<br>AKA<br>AP<br>MN<br>LO<br>AK | D<br>02<br>1SA<br>K<br>C5<br>OE18<br>AK<br>C5<br>OE18<br>AK<br>C5<br>OE18<br>AK<br>C5<br>OE18 | AX<br>C7<br>1E18<br>AX<br>C7<br>1E18<br>AX<br>C7<br>1E18<br>AX<br>C7<br>1E18<br>AX<br>C7<br>1E18 | C4<br>D1<br>OTF<br>C4<br>D1<br>OTF<br>C4<br>D1<br>OTF<br>C4<br>D1<br>OTF   | E<br>CR4<br>AP<br>E<br>CR4<br>AP<br>E<br>CR4<br>AP<br>E<br>CR4<br>AP     | 05<br>CR3<br>10<br>KIO<br>05<br>CR3<br>10<br>KIO<br>05<br>CR3<br>10<br>KIO<br>05<br>CR3<br>10<br>KIO | 04<br>A0<br>KIO<br>04<br>A0<br>KIO<br>04<br>A0<br>KIO<br>04<br>A0<br>KIO | 04<br>A0<br>KIO<br>04<br>A0<br>KIO<br>04<br>A0<br>KIO<br>04<br>A0<br>KIO | MN<br>LO<br>K-<br>MN<br>LO<br>D-<br>CR5<br>CR6<br>KIO                           |



[illegible]



|     |  |   |                         |                                  |                                  |                             |                             |                       |                       |                       |                |    |
|-----|--|---|-------------------------|----------------------------------|----------------------------------|-----------------------------|-----------------------------|-----------------------|-----------------------|-----------------------|----------------|----|
| 042 | TSA<br>CR5<br>CR6<br>MAX0  | AP<br>04<br>A0<br>AX-   | MN<br>C3<br>L0<br>.     | TX<br>C5<br>B3<br>05 AKA         | T0<br>02<br>OE18<br>AK           | 06<br>C7<br>TSA<br>.        | 03<br>D1<br>1E18<br>11 MAX3 | DC<br>NX<br>OTF<br>MN | C4<br>CR4<br>AP<br>.  | 05<br>CR3<br>.        | 13<br>MAX1     | 14 |
|     | TSA<br>C4<br>CR4<br>AP   | AP<br>05<br>CR3<br>.  | AK<br>CR5<br>CR6<br>AKA | MN<br>04<br>A0<br>.              | AX<br>C3<br>L0<br>12 MAX2        | TX<br>C5<br>B3<br>.         | T0<br>02<br>OE18<br>13 MAX1 | 06<br>C7<br>TSA<br>.  | 03<br>D1<br>1E18<br>. | DC<br>NX<br>OTF<br>.  | 05<br>CR3<br>. |    |
|     | TSA<br>NX<br>OTF<br>TSA<br>NX<br>OTF<br>TSA<br>CR3   | AP<br>CR4<br>AP<br>AP<br>CR4<br>AP<br>AP<br>CR6<br>TSO-                                     | AX<br>CR3<br>.          | 15<br>15<br>05                   | 05<br>05<br>05                   | 05<br>AKA<br>CR5<br>L0<br>. | 05<br>MN<br>B3<br>.         | 05<br>OE18<br>.       | 05<br>TSA<br>.        | 05<br>D1<br>1E18<br>. | 05<br>CR3<br>. |    |
|     | TSA<br>C4<br>A0<br>.   | AP<br>CR5<br>L0<br>AKA  | K<br>MN<br>B3<br>.      | 05<br>E<br>C5<br>OE18            | 06<br>C7<br>TSA<br>.             | 05<br>D1<br>1E18<br>.       | 04<br>NX<br>OTF<br>.        | 03<br>CR4<br>AP<br>.  | 02<br>CR3<br>.        | TS0<br>CR6<br>OY<br>. | 15             |    |
| 043 | TSA<br>NX<br>OTF<br>TSA<br>NX<br>OTF<br>TSA<br>NX<br>OTF<br>TSA<br>NX<br>OTF<br>TSA<br>NX<br>OTF | AP<br>CR4<br>AP<br>AP<br>CR4<br>AP<br>AP<br>CR4<br>AP<br>AP<br>CR4<br>AP<br>AP<br>CR4<br>AP | K<br>CR3<br>.           | 15<br>15<br>15<br>15<br>15<br>15 | 05<br>05<br>05<br>05<br>05<br>05 | 05<br>AKA<br>CR5<br>L0<br>. | 05<br>MN<br>B3<br>.         | 05<br>OE18<br>.       | 05<br>TSA<br>.        | 05<br>D1<br>1E18<br>. | 05<br>CR3<br>. |    |



## 044

|     |         |     |        |     |        |        |         |     |        |
|-----|---------|-----|--------|-----|--------|--------|---------|-----|--------|
| 1SA | AP      | 03  | TS0    | C4  | CR5    | MN     | C5      | C7  | D1     |
| NX  | CR4     | CR3 | CR6    | A0  | L0     | B3     | OE18    | 1SA | 1E18   |
| OTF | AP      | .   | 15 OY  | 03  | .      | 05 AKA | .       | .   | .      |
| 1SA | AP      | 02  | TS0    | C4  | CR5    | MN     | C5      | C7  | D1     |
| NX  | AP      | CR3 | CR6    | A0  | L0     | B3     | OE18    | 1SA | 1E18   |
| OTF | AP      | .   | 15 OY  | 02  | .      | 05 AKA | .       | .   | .      |
| 1SA | AP      | CR4 | CR5    | CR2 | AX     | C4     | MN      | C3  | C5     |
| C7  | D1      | NX  | CR6    | A0  | L0     | B3     | OE18    | 1SA | 1E18   |
| OTF | AP      | .   | 16 CR4 | .   | 05 AKA | .      | .       | .   | .      |
| 1SA | AP      | CR2 | AX     | C4  | L0     | B3     | C5      | C7  | D1     |
| NX  | CR6     | A0  | L0     | B3  | MN     | 1SA    | OE18    | OTF | AP     |
| .   | 16 CR5- | .   | 03 OD0 | CR2 | 05 AKA | .      | 17 TX   | .   | .      |
| 1SA | AP      | CR3 | CR5    | CR2 | AX     | C4     | MN      | C3  | C5     |
| C7  | D1      | NX  | CR6    | A0  | L0     | B3     | OE18    | 1SA | 1E18   |
| OTF | AP      | .   | 16 CR3 | .   | 05 AKA | .      | .       | .   | .      |
| 1SA | AP      | CR5 | AX     | C4  | MN     | C3     | C5      | C7  | D1     |
| NX  | CR6     | A0  | L0     | B3  | OE18   | 1SA    | OE18    | OTF | AP     |
| .   | 16 CR2- | .   | 05 AKA | CR2 | AX     | C4     | MN      | C3  | C5     |
| 1SA | AP      | TX  | CR5    | A0  | L0     | B3     | OE18    | 1SA | 1E18   |
| C7  | D1      | NX  | CR6    | A0  | L0     | B3     | OE18    | 1SA | 1E18   |
| OTF | AP      | .   | 16 TX  | .   | 05 AKA | .      | .       | .   | .      |
| 1SA | AP      | CR6 | AX     | C4  | MN     | C3     | C5      | C7  | D1     |
| NX  | CR4     | A0  | L0     | B3  | OE18   | 1SA    | OE18    | OTF | AP     |
| .   | 17 CR6  | .   | 03 OD0 | .   | 05 AKA | .      | .       | .   | .      |
| 1SA | AP      | CR5 | AX     | C4  | MN     | C3     | C5      | C7  | D1     |
| NX  | CR4     | A0  | L0     | B3  | OE18   | 1SA    | OE18    | OTF | AP     |
| .   | 17 CR5  | .   | 05 AKA | .   | 05 AKA | .      | .       | .   | .      |
| 1SA | AP      | CR3 | AX     | C4  | MN     | C3     | C5      | C7  | D1     |
| NX  | CR4     | A0  | L0     | B3  | OE18   | 1SA    | OE18    | OTF | AP     |
| .   | 17 CR3  | .   | 03 OD0 | .   | 05 AKA | .      | .       | .   | .      |
| 1SA | AP      | C4  | TX     | T0  | AX     | CR5    | MN      | C3  | C5     |
| C7  | D1      | NX  | CR4    | CR3 | CR6    | A0     | L0      | B3  | OE18   |
| 1SA | 1E18    | OTF | AP     | .   | 18 C4  | 05 AKA | 05 AKA  | .   | 14 AKA |
| 1SA | AP      | AC  | TX     | T0  | AX     | CR5    | MN      | C3  | C5     |
| C7  | D1      | NX  | CR4    | CR3 | CR6    | A0     | L0      | B3  | OE18   |
| 1SA | 1E18    | OTF | AP     | .   | 18 AC  | 05 AKA | 02 OMDL | .   | 14 AKA |
| 1SA | AP      | TS0 | TX     | T0  | AX     | CR5    | MN      | C3  | C5     |
| C7  | D1      | NX  | CR4    | CR3 | CR6    | A0     | L0      | B3  | OE18   |
| 1SA | 1E18    | OTF | AP     | .   | 18 TS0 | 05 AKA | 02 OMDL | .   | 05 AKA |
| .   | 14 AKA  | .   | .      | .   | .      | .      | .       | .   | .      |



049

19. AP CR5 OE18 AP CR5 OE18 T01C AP C7 1E18 AP MN L0 . AP C5 1SA

C2 C7 1E18  
C2 C7 1E18  
B4 NX AP IX C5 1SA  
B4 D1 QTF

B4 NX AP B4 NX AP TX CR3 C2- B4 D1 OTF B1 CR4

TX CR3  
LO TX CR3  
C5 AX A0 AKA B1 CR4  
. . C4 CR6

[illegible]1SA  
D1AP  
NX

B3  
CR4

IX  
CR3

C4  
CR6

CR5  
A0

07 MN

C3  
OE1

C5  
7SA

C7  
TEI

1SA  
CR5  
A0  
B3  
1SA  
C3  
0E18  
AKA

AP  
MN  
LO  
AP  
C5  
TSA

B3  
C3  
OE18  
AKA  
IX  
C7  
1E18

IX  
C5  
TSA  
B6  
D1  
OTF

B6  
C7  
1E18  
B4  
NX  
AP

B4  
D1  
OTF  
B1  
CR4

B2  
NX  
AP  
D  
CR3  
QT1

B1  
CR4  
·  
·  
C4  
CR6  
BL4

D CR3 QT1 CR5 A0 B2-

C4.  
CR6  
BL4  
MN  
LO

|      |     |      |     |    |     |     |     |     |    |
|------|-----|------|-----|----|-----|-----|-----|-----|----|
| 1SA  | AP  | IX   | B6  | B4 | B2  | D   | C4  | CR5 | MN |
| C3   | C5  | C7   | D1  | NX | CR4 | CR3 | CR6 | AO  | LO |
| OE18 | 1SA | 1E18 | OTF | AP | .   | 21  | BL4 | B1- | .  |
| AKA  | .   | .    | .   | .  | .   | QT1 | .   | .   | 05 |

052 Logic test for flip-flop AP, zero side. Logic for AP is on boards 321, 320, 319, 318.  
AP or test, zero side.

|     |     |      |      |      |      |      |     |     |     |
|-----|-----|------|------|------|------|------|-----|-----|-----|
| OSA | AP  | TO   | AX   | AC   | TX   | TP   | C4  | 03  | 04  |
| CR5 | MN  | AK   | C3   | C7   | C5   | 02   | D1  | K   | CL7 |
| NX  | DC  | TSO  | CR4  | CR2  | CR6  | AO   | C2  | B6  | B4  |
| LO  | IX  | B2   | B1   | OE18 | OSA  | 1E18 | OTF | AP  | 01  |
| 1SA | D   | 06   | .    | E    | .    | TP   | TX  | .   | .   |
| 03  | MN  | AK   | K    | 02   | 05   | AX   | C3  | AC  | 04  |
| CR2 | TSO | B3   | C5   | OSA  | CL7  | OTF  | AP  | CR3 | CR5 |
| OSA | AP  | D    | 06   | C4   | 03   | 04   | CR5 | 01  | .   |
| C3  | C7  | C5   | 02   | D1   | K    | CL7  | NX  | MN  | AK  |
| TSO | CR4 | CR2  | CR6  | AO   | C2   | B6   | B4  | TO  | DC  |
| B2  | B1  | OE18 | OSA  | 1E18 | OTF  | AP   | 02  | LO  | IX  |
| 1SA | AX  | AC   | TX   | TP   | TO   | K    | E   | .   | .   |
| 03  | MN  | AK   | C5   | 02   | CL7  | C3   | 06  | 05  | 04  |
| CR2 | TSO | B3   | OE18 | OSA  | 1E18 | OTF  | AP  | CR3 | CR5 |
| .   | .   | .    | .    | .    | .    | .    | .   | 02  | .   |

053

|      |      |     |      |      |      |      |      |      |     |
|------|------|-----|------|------|------|------|------|------|-----|
| OSA  | AP   | K   | E    | 05   | TP   | AX   | AC   | TX   | 04  |
| CR5  | MN   | AK  | C3   | C7   | C5   | 02   | D1   | CL7  | NX  |
| TO   | DC   | TSO | CR4  | CR2  | CR6  | AO   | C2   | B6   | B4  |
| LO   | IX   | B2  | B1   | OE18 | OSA  | 1E18 | OTF  | AP   | 03  |
| 1SA  | C4   | 06  | 03   | D    | TO   | TX   | AC   | .    | .   |
| AK   | C5   | 02  | CL7  | AX   | C3   | CR3  | CR5  | 04   | MN  |
| B3   | OE18 | OSA | 1E18 | OTF  | AP   | 03   | .    | CR2  | TSO |
| OSA  | AP   | K   | E    | 05   | TX   | AC   | D    | AX   | TP  |
| C4   | CR5  | MN  | AK   | CR4  | C7   | C5   | 02   | D1   | CL7 |
| NX   | TO   | DC  | TSO  | CR2  | CR2  | CR6  | AO   | C2   | B6  |
| B4   | LO   | IX  | B2   | B1   | OE18 | OSA  | 1E18 | OTF  | AP  |
| 04   | .    | .   | .    | TO   | TP   | MN   | AK   | C5   | 02  |
| 1SA  | 06   | 04  | 03   | TO   | CR2  | TSO  | B3   | OE18 | OSA |
| CL7  | AX   | C3  | CR3  | CR5  | .    | .    | .    | .    | .   |
| 1E18 | OTF  | AP  | 04   | .    | .    | .    | .    | .    | .   |





|     |                       |                       |                       |                          |                          |                        |                          |                         |                        |                        |                       |                      |                      |
|-----|-----------------------|-----------------------|-----------------------|--------------------------|--------------------------|------------------------|--------------------------|-------------------------|------------------------|------------------------|-----------------------|----------------------|----------------------|
| 057 | 1SA<br>AX<br>OTF      | 1SA<br>CL7<br>OTF     | 03<br>DC<br>IX        | AP<br>CR5<br>DC<br>IX    | AP<br>CR5<br>DC<br>IX    | 06<br>CR3<br>10        | 02<br>CR5                | TP<br>CR2               | T0<br>TS0              | TX<br>B3               | AK<br>OE18            | C5<br>OSA            | CL7<br>1E18          |
|     | OSA<br>C4<br>T0<br>L0 | 1SA<br>CL7<br>OTF     | 03<br>DC<br>IX        | AP<br>CR5<br>DC<br>IX    | AP<br>CR5<br>DC<br>IX    | K<br>MN<br>TS0<br>B2   | E<br>AK<br>CR4<br>B1     | 05<br>C3<br>CR2<br>OE18 | 04<br>C7<br>CR6<br>OSA | 03<br>C5<br>A0<br>1E18 | AC<br>D1<br>C2<br>OTF | D<br>CL7<br>B6<br>AP | TX<br>NX<br>B4<br>11 |
|     | 1SA<br>CL7<br>OTF     | 1SA<br>CL7<br>OTF     | 03<br>DC<br>IX        | AP<br>CR5<br>DC<br>IX    | AP<br>CR5<br>DC<br>IX    | 06<br>CR3<br>11        | 02<br>CR5                | TP<br>CR2               | T0<br>TS0              | TX<br>B3               | MN<br>OE18            | AK<br>OSA            | C5<br>1E18           |
|     | 03<br>DC<br>IX        | 03<br>DC<br>IX        | 03<br>DC<br>IX        | AP<br>CR5<br>DC<br>IX    | AP<br>CR5<br>DC<br>IX    | AK<br>CR5<br>CR4<br>B1 | AC<br>MN<br>CR2<br>OE18  | D<br>C3<br>CR6<br>OSA   | 06<br>C7<br>A0<br>1E18 | AX<br>C5<br>C2<br>OTF  | TX<br>02<br>B6<br>AP  | TP<br>NX<br>B4<br>12 | C4<br>T0<br>L0       |
|     | 1SA<br>03<br>TS0      | 1SA<br>03<br>TS0      | 1SA<br>03<br>TS0      | DI<br>MN<br>B3           | DI<br>MN<br>B3           | K<br>C5<br>OE18        | CL7<br>02<br>OSA         | T0<br>AX<br>1E18        | E<br>C3<br>OTF         | 05<br>06<br>AP         | TP<br>CR3<br>12       | TX<br>CR5            | 04<br>CR2            |
| 058 | OSA<br>03<br>DC<br>IX | OSA<br>03<br>DC<br>IX | OSA<br>03<br>DC<br>IX | AP<br>04<br>TS0<br>B2    | AP<br>04<br>TS0<br>B2    | AK<br>CR5<br>CR4<br>B1 | CL7<br>MN<br>CR2<br>OE18 | AC<br>C3<br>CR6<br>OSA  | 06<br>C7<br>A0<br>1E18 | AX<br>C5<br>C2<br>OTF  | TX<br>02<br>B6<br>AP  | TP<br>D1<br>B4<br>13 | C4<br>T0<br>L0       |
|     | 1SA<br>03<br>TS0      | 1SA<br>03<br>TS0      | 1SA<br>03<br>TS0      | NX<br>MN<br>B3           | NX<br>MN<br>B3           | K<br>C5<br>OE18        | D<br>02<br>OSA           | T0<br>AX<br>1E18        | E<br>C3<br>OTF         | 05<br>06<br>AP         | TP<br>CR3<br>13       | TX<br>CR5            | 04<br>CR2            |
|     | 03<br>TS0             | 03<br>TS0             | 03<br>TS0             | AP<br>CR5<br>CR2<br>OE18 | AP<br>CR5<br>CR2<br>OE18 | MN<br>C3<br>CR6<br>OSA | AX<br>C7<br>A0<br>1E18   | K<br>C5<br>C2<br>OTF    | E<br>02<br>B6<br>AP    | AC<br>D1<br>B4<br>14   | D<br>CL7<br>L0        | TP<br>NX<br>IX       | C4<br>TS0<br>B2      |
|     | 04<br>CR4<br>B1       | 04<br>CR4<br>B1       | 04<br>CR4<br>B1       | CR5<br>CR2<br>OE18       | CR5<br>CR2<br>OE18       | CR6<br>OSA             | CR6<br>OSA               | 06<br>06<br>CR3<br>14   | 03<br>03<br>CR5        | DC<br>DC<br>CR2        | 05<br>TS0             | TP<br>B3             | 04<br>OE18           |
|     | 1SA<br>C5<br>OSA      | 1SA<br>C5<br>OSA      | 1SA<br>C5<br>OSA      | AK<br>02<br>1E18         | AK<br>02<br>1E18         | CL7<br>OTF             | AP                       |                         |                        |                        |                       |                      |                      |

[illegible]

|      |      |      |      |      |      |      |      |      |      |
|------|------|------|------|------|------|------|------|------|------|
| 1E18 | OTF  | AP   | 20   | AC   | MN   | AK   | C5   | CL7  | AX   |
| 1SA  | CR6  | TO   | TP   | OE18 | OSA  | 1E18 | OTF  | AP   | 20   |
| C3   | CR2  | TSO  | B3   |      |      |      |      |      |      |
| OSA  | AP   | CR3  | CR2  | TX   | K    | E    | 06   | 05   | 04   |
| 03   | 02   | D    | AX   | AC   | TP   | C4   | MN   | AK   | C3   |
| C7   | C5   | D1   | CL7  | NX   | TO   | DC   | TSO  | CR4  | CR6  |
| A0   | C2   | B6   | B4   | LO   | IX   | B2   | B1   | OE18 | OSA  |
| 1E18 | OTF  | AP   | 21   |      |      |      |      |      |      |
| 062  | CR5  | TO   | TP   | AC   | MN   | AK   | C5   | CL7  | AX   |
| 1SA  | TSO  | B3   | OE18 | OSA  | 1E18 | OTF  | AP   | 21   |      |
| C3   |      |      |      |      |      |      |      |      |      |
| OSA  | AP   | AC   | TSO  | K    | E    | 06   | 05   | 04   | 03   |
| 02   | D    | AX   | TP   | CR5  | MN   | AK   | C3   | C7   | C5   |
| D1   | CL7  | NX   | DC   | CR4  | CR2  | CR6  | A0   | C2   | B6   |
| B4   | LO   | IX   | B2   | B1   | OE18 | OSA  | 1E18 | OTF  | AP   |
| 22   |      |      |      |      |      |      |      |      |      |
| 1SA  | C4   | TX   | TO   | TP   | MN   | AK   | C5   | CL7  | AX   |
| C3   | CR3  | CR5  | CR2  | B3   | OE18 | OSA  | 1E18 | OTF  | AP   |
| 22   |      |      |      |      |      |      |      |      |      |
| OSA  | AP   | K    | E    | 06   | 05   | 04   | 03   | 02   | D    |
| AX   | AC   | C4   | CR5  | MN   | AK   | C7   | D1   | CL7  | NX   |
| TO   | DC   | TSO  | CR4  | CR2  | CR6  | LO   | IX   | B2   | B1   |
| OE18 | OSA  | 1E18 | OTF  | AP   | 23   |      |      |      |      |
| 063  | A0   | C5   | C2   | B6   | B4   | TP   | TX   | C3   | TO   |
| 1SA  | MN   | AK   | CL7  | AX   | CR3  | CR5  | CR5  | TSO  | B3   |
| AC   | OSA  | 1E18 | OTF  | AP   | 23   |      |      |      |      |
| OE18 | AP   | C5   | K    | E    | 06   | 05   | 04   | 03   | 02   |
| OSA  | AX   | AC   | C4   | CR5  | MN   | AK   | C7   | D1   | CL7  |
| D    | TO   | DC   | TSO  | CR4  | CR2  | CR6  | A0   | IX   | B2   |
| NX   | OE18 | OSA  | 1E18 | OTF  | AP   | 24   |      |      |      |
| B1   | LO   | C2   | B6   | B4   | CR3  | TX   | C3   | TO   | AC   |
| 1SA  | AK   | CL7  | AX   | CR3  | CR5  | CR2  | TSO  | B3   | OE18 |
| MN   | 1E18 | OTF  | AP   | 24   |      |      |      |      |      |
| OSA  | AP   | B3   | K    | E    | 06   | 05   | 04   | 03   | 02   |
| OSA  | TX   | TP   | C4   | CR5  | MN   | AK   | C7   | C7   | C5   |
| AC   | CL7  | NX   | TO   | DC   | TSO  | CR4  | CR2  | CR6  | A0   |
| D1   | LO   | IX   | OSA  | 1E18 | OTF  | AP   | 25   |      |      |
| C2   | AX   | TX   | B6   | B4   | B2   | B1   | D    | TO   | TP   |
| 1SA  | AC   | AC   | AK   | C5   | CL7  | C3   | CR3  | CR5  | CR2  |
| TX   | AC   | OE18 | AK   | OTF  | AP   | 25   |      |      |      |
| TSO  |      |      |      |      |      |      |      |      |      |

[illegible]





Tape stops  
Marker number

|     |             |           |             |           |            |           |            |          |          |             |          |                        |
|-----|-------------|-----------|-------------|-----------|------------|-----------|------------|----------|----------|-------------|----------|------------------------|
| 069 | 1SA<br>OE18 | 05<br>OSA | CR5<br>1E18 | 06<br>1TF | 03<br>AP   | T0        | 05<br>OD   | 04<br>OM | 02<br>05 | CR3<br>OE18 | 07<br>04 | B3<br>OM               |
|     | 1SA<br>1E18 | 07<br>AKA | 06<br>AP    | 05<br>T0  | 05<br>OD   | 02<br>03- | CR3        | 04<br>OM | B3<br>02 | 07<br>07    | 04<br>07 | B3<br>OSA<br>AKA<br>B3 |
|     | 1SA<br>OE18 | TX<br>OSA | CR5<br>1E18 | 06<br>1TF | 03<br>AP   | T0        | 05<br>TX   | 04<br>OM | 02<br>02 | 07<br>04    | 07<br>04 | B3<br>B3               |
|     | 1SA<br>OE18 | AK<br>OSA | 06<br>1E18  | 04<br>1TF | TP<br>AP   | T0        | 06<br>MNA- | 02<br>02 | 02<br>02 | 04<br>04    | 07<br>07 | B3<br>B3               |
|     | AKA         | MN        | 06<br>1E18  | 04<br>1TF | TP<br>AP   | T0        | 06<br>AK-  | 02<br>02 | 02<br>02 | 04<br>04    | 07<br>07 | B3<br>B3               |
|     | 1SA<br>OE18 | OSA       | 06<br>1E18  | 04<br>1TF | TP<br>AP   | T0        | 06<br>AK-  | 02<br>02 | 02<br>02 | 04<br>04    | 07<br>07 | B3<br>B3               |
|     | MNA         | MN        | 06<br>1E18  | 04<br>1TF | TP<br>AP   | T0        | 06<br>AK-  | 02<br>02 | 02<br>02 | 04<br>04    | 07<br>07 | B3<br>B3               |
| 070 | 1SA<br>CR3  | K<br>B3   | E<br>OE18   | 05<br>OSA | 03<br>1E18 | MN<br>1TF | AK<br>AP   | T0       | 02<br>02 | 04<br>04    | 07<br>07 | B3<br>B3               |
|     | OM          | B3        | 10<br>OLP   | 05<br>OSA | 03<br>1E18 | 1TF       | AP         | 06<br>06 | 02<br>02 | 04<br>04    | 07<br>07 | B3<br>B3               |
|     | 1SA<br>CR3  | K<br>B3   | 10<br>OLP   | 05<br>OSA | 03<br>1E18 | 1TF       | AP         | 06<br>06 | 02<br>02 | 04<br>04    | 07<br>07 | B3<br>B3               |
|     | K           | B3        | 04<br>OM    | 05<br>OSA | 03<br>1E18 | 1TF       | AP         | 06<br>06 | 02<br>02 | 04<br>04    | 07<br>07 | B3<br>B3               |
|     | 1SA<br>CR3  | E<br>B3   | 04<br>OM    | 05<br>OSA | 03<br>1E18 | 1TF       | AP         | 06<br>06 | 02<br>02 | 04<br>04    | 07<br>07 | B3<br>B3               |
|     | E           | B3        | 04<br>OM    | 05<br>OSA | 03<br>1E18 | 1TF       | AP         | 06<br>06 | 02<br>02 | 04<br>04    | 07<br>07 | B3<br>B3               |
|     | 1SA<br>OE18 | MN<br>OSA | 04<br>OM    | 05<br>OSA | 03<br>1E18 | 1TF       | AP         | 06<br>06 | 02<br>02 | 04<br>04    | 07<br>07 | B3<br>B3               |
|     | OM          | OSA       | 10<br>OLP   | 05<br>OSA | 03<br>1E18 | 1TF       | AP         | 06<br>06 | 02<br>02 | 04<br>04    | 07<br>07 | B3<br>B3               |
|     | 1SA<br>CR3  | 05<br>B3  | 04<br>OM    | 05<br>OSA | 03<br>1E18 | 1TF       | AP         | 06<br>06 | 02<br>02 | 04<br>04    | 07<br>07 | B3<br>B3               |
|     | OM          | 04<br>OM  | 10<br>OLP   | 05<br>OSA | 03<br>1E18 | 1TF       | AP         | 06<br>06 | 02<br>02 | 04<br>04    | 07<br>07 | B3<br>B3               |
| 071 | 1SA<br>CR3  | 05<br>B3  | 04<br>OM    | 05<br>OSA | 03<br>1E18 | 1TF       | AP         | 06<br>06 | 02<br>02 | 04<br>04    | 07<br>07 | B3<br>B3               |
|     | 05          | B3        | 04<br>OM    | 05<br>OSA | 03<br>1E18 | 1TF       | AP         | 06<br>06 | 02<br>02 | 04<br>04    | 07<br>07 | B3<br>B3               |
|     | 1SA<br>OE18 | MN<br>OSA | 04<br>OM    | 05<br>OSA | 03<br>1E18 | 1TF       | AP         | 06<br>06 | 02<br>02 | 04<br>04    | 07<br>07 | B3<br>B3               |
|     | OM          | OSA       | 10<br>OLP   | 05<br>OSA | 03<br>1E18 | 1TF       | AP         | 06<br>06 | 02<br>02 | 04<br>04    | 07<br>07 | B3<br>B3               |
| 072 | 1SA<br>OE18 | MN<br>OSA | 04<br>OM    | 05<br>OSA | 03<br>1E18 | 1TF       | AP         | 06<br>06 | 02<br>02 | 04<br>04    | 07<br>07 | B3<br>B3               |
|     | OM          | OSA       | 10<br>OLP   | 05<br>OSA | 03<br>1E18 | 1TF       | AP         | 06<br>06 | 02<br>02 | 04<br>04    | 07<br>07 | B3<br>B3               |
|     | 1SA<br>CR3  | AC<br>B3  | 04<br>OM    | 05<br>OSA | 03<br>1E18 | 1TF       | AP         | 06<br>06 | 02<br>02 | 04<br>04    | 07<br>07 | B3<br>B3               |
|     | CR3         | B3        | 04<br>OM    | 05<br>OSA | 03<br>1E18 | 1TF       | AP         | 06<br>06 | 02<br>02 | 04<br>04    | 07<br>07 | B3<br>B3               |
|     | 1SA<br>OE18 | MN<br>OSA | 04<br>OM    | 05<br>OSA | 03<br>1E18 | 1TF       | AP         | 06<br>06 | 02<br>02 | 04<br>04    | 07<br>07 | B3<br>B3               |
|     | MNA-        | MN-       | 04<br>OM    | 05<br>OSA | 03<br>1E18 | 1TF       | AP         | 06<br>06 | 02<br>02 | 04<br>04    | 07<br>07 | B3<br>B3               |
|     | 1SA<br>OE18 | K<br>OSA  | 04<br>OM    | 05<br>OSA | 03<br>1E18 | 1TF       | AP         | 06<br>06 | 02<br>02 | 04<br>04    | 07<br>07 | B3<br>B3               |
|     | OE18        | AC        | 04<br>OM    | 05<br>OSA | 03<br>1E18 | 1TF       | AP         | 06<br>06 | 02<br>02 | 04<br>04    | 07<br>07 | B3<br>B3               |



075

[illegible]

079



080

MN CR3  
 AX CR3  
 TX OE18  
 MAX2  
 AK  
 USA  
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 AK OE18  
 AK OE18  
 K B3  
 K CR3  
 K CR3  
 K CR3  
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 E CR3  
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 AK OE18  
 AK OE18  
 AK OE18  
 AC CR3  
 CR3  
 AK OE18  
 MN CR3  
 .

[illegible][illegible]

|    |                               |           |          |           |           |                         |           |           |           |           |           |           |           |           |     |
|----|-------------------------------|-----------|----------|-----------|-----------|-------------------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----|
| 10 | T0<br>OSA<br>OLP<br>T0<br>OSA | 03<br>TTF | DC<br>AP | 03<br>TTF | 03<br>TTF | AK<br>1E18<br>TX<br>OSA | T0<br>OSA | T0<br>OSA | 03<br>TTF | 06<br>TTF | 06<br>TTF | T0<br>OSA | 06<br>TTF | T0<br>OSA | OLP |
|----|-------------------------------|-----------|----------|-----------|-----------|-------------------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----|

06 1E18  
06 1E18  
MAX2  
DC  
AP  
05  
.  
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DC  
AP  
DC  
AP  
TX  
1TF  
TO  
1E18  
06 1E18  
06 1E18  
06 1E18  
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DC  
AP  
DC  
AP  
DC  
AP  
DC  
AP  
06 1E18  
03  
AP  
06 1E18  
K06-

03  
1TF MAX1  
6 03  
1TF .  
05 .  
C5 TOX-  
4 .  
05 .  
05 .  
TO AP  
03 1TF  
03 03  
1TF 1TF  
03 03  
1TF .  
05 05  
05 05  
03 1TF  
05 03  
1TF .

|    |    |    |    |      |    |     |    |   |   |    |      |    |      |    |    |    |    |    |    |    |   |    |    |    |    |    |    |    |    |    |    |    |    |      |
|----|----|----|----|------|----|-----|----|---|---|----|------|----|------|----|----|----|----|----|----|----|---|----|----|----|----|----|----|----|----|----|----|----|----|------|
| DC | AP | DC | AP | MAXO | C5 | AK- | O2 | . | . | C5 | TOX- | C5 | TOX- | O5 | DC | AP | DC | AP | DC | AP | . | C5 | OA | C5 | OA | C5 | OA | DC | AP | C5 | OA | DC | AP | MAX1 |
|    |    |    |    | 7    |    | 4   |    |   |   | 4  |      | 4  |      |    |    |    |    |    |    |    |   |    | 4  | 4  | 4  | 4  |    |    |    |    | 4  |    | 6  |      |

|    |      |    |     |     |    |      |      |    |    |    |      |      |     |    |
|----|------|----|-----|-----|----|------|------|----|----|----|------|------|-----|----|
| 05 | MAXO | 02 | CR3 | 02  | C5 | 02   | 02   | 05 | 05 | 05 | 02   | 02   | 02  | 05 |
| 05 | 05   | 02 | DA- | TX- | 0A | K06- | 02   | 05 | 05 | 05 | K06- | 02   | 02  | 05 |
|    |      |    |     | TO- | 05 | 02   | 03A- |    |    |    | 02   | 03A- | DC- |    |
|    |      |    |     |     |    |      | 02   |    |    |    |      | 05   | 05  |    |

C5  
MAX3  
C5  
MAX3  
CR3  
AKA  
B3  
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CR3  
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CR3  
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02  
C5  
0A  
C5  
0A  
C5  
0A  
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CR3  
06-  
CR3  
CR3  
03-  
C5  
0A  
CR3  
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C5  
MAX2  
MAX0



Tape stops  
Marker number

|     |             |     |    |            |     |           |    |           |     |    |             |     |    |             |                    |    |
|-----|-------------|-----|----|------------|-----|-----------|----|-----------|-----|----|-------------|-----|----|-------------|--------------------|----|
| 085 | 1SA<br>AP   | AX  | 18 | T0<br>TSO- | C5  | CR3<br>OM | 04 | CR3<br>OM | B3  | 07 | OE18<br>AKA | OSA | 11 | 1E18<br>OLP | 1TF<br>K06-<br>TSO | 18 |
|     | 1SA<br>TO   | K   |    | E          | 06  | B3        |    | 05        | 04  |    | 03          | 02  |    | AX          |                    |    |
|     | 1SA<br>OY   | C5  |    | CR3        | OM  | 04        |    | OE18      | OSA |    | 1E18        | 1TF |    | AP          |                    |    |
|     | 1SA<br>1E18 | K   |    | AX         | TSO | 18        |    | 0Y        | AKA |    | CR3         | B3  |    | 0E18        |                    |    |
|     |             | 1TF |    | AP         |     |           |    |           | K   |    |             | OM  |    |             | AKA                |    |
|     |             | 11  |    | K06-       | TSO |           |    |           | C5  |    | CR3         | B3  |    | 0E18        |                    |    |
|     | 1SA<br>1E18 | E   |    | AX         | TSO | 18        |    | 0Y        | E   |    | CR3         | OM  |    |             | OSA                |    |
|     |             | 1TF |    | AP         |     |           |    |           |     |    |             |     |    |             | AKA                |    |
|     | 1SA<br>1E18 | 06  |    | K06-       | TSO | 18        |    | 0Y        | C5  |    | CR3         | B3  |    | 0E18        |                    |    |
|     |             | 1TF |    | AX         |     |           |    |           | 06  |    |             | OM  |    |             | AKA                |    |
|     | 1SA<br>1E18 | 11  |    | AP         | TSO | 18        |    | 0Y        | C5  |    | CR3         | B3  |    | 0E18        |                    |    |
| 086 |             | 05  |    | K06-       | TSO | 18        |    | 0Y        | C5  |    | CR3         | OM  |    |             | OSA                |    |
|     | 1SA<br>1E18 | 1TF |    | AX         |     |           |    |           | 05  |    |             |     |    |             | AKA                |    |
|     |             | 11  |    | AP         |     |           |    |           |     |    |             |     |    |             |                    |    |
|     |             | 04  |    | K06-       | TSO | 18        |    | 0Y        | C5  |    | CR3         | B3  |    | 0E18        |                    |    |
|     | 1SA<br>1E18 | 1TF |    | AX         |     |           |    |           | 04  |    |             | OM  |    |             | OSA                |    |
|     |             | 11  |    | AP         |     |           |    |           |     |    |             |     |    |             | AKA                |    |
|     | 1SA<br>1E18 | 03  |    | K06-       | TSO | 18        |    | 0Y        | C5  |    | CR3         | B3  |    | 0E18        |                    |    |
|     |             | 1TF |    | AX         |     |           |    |           | 03  |    |             | OM  |    |             | OSA                |    |
|     | 1SA<br>1E18 | 11  |    | AP         |     |           |    |           |     |    |             |     |    |             | AKA                |    |
|     |             | 02  |    | K06-       | TSO | 18        |    | 0Y        | C5  |    | CR3         | B3  |    | 0E18        |                    |    |
|     | 1SA<br>1E18 | 1TF |    | AX         |     |           |    |           | 02  |    |             | OM  |    |             | OSA                |    |
| 087 |             | 11  |    | AP         |     |           |    |           |     |    |             |     |    |             | AKA                |    |
|     | 1SA<br>AP   | CR5 | 19 | K06-       | T0  | 04        |    | OM        | B3  |    | OE18        | OSA | 07 | 1E18<br>AKA | 1TF                | 21 |
|     | CR5-        |     |    | CR2        |     |           |    |           |     |    | 05          |     |    |             |                    |    |
|     | 1SA<br>AP   | CR4 | 19 | CR2        | T0  | 04        |    | OM        | B3  |    | OE18        | OSA | 20 | 1E18        | 1TF                |    |
|     |             |     |    | CR5-       |     |           |    |           |     |    | 07          |     |    | CR6-        |                    |    |
|     | 1SA<br>1E18 | CR3 |    | CR4        | CR5 | 19        |    | CR2       | T0  |    | C5          | B3  | 05 | OE18        | OSA                | 07 |
|     |             | 1TF |    | AP         |     |           |    | CR3       |     |    | OM          |     |    | OD          |                    |    |
|     | AKA         |     |    |            |     |           |    |           |     |    |             |     |    |             |                    |    |
|     | 1SA<br>1E18 | TX  |    | CR4        | CR5 | 19        |    | CR2       | T0  |    | C5          | B3  | 22 | OE18        | OSA                |    |
|     |             | 1TF |    | AP         |     |           |    | TX        |     |    | AKA         | OSA |    | TOX-        | TX-                |    |
|     | 1SA<br>AP   | CR3 | 20 | CR6        | T0  | 04        |    | C5        | B3  |    | OE18        | OSA |    | 1E18        | 1TF                |    |
|     | 1SA<br>AP   | TX  | 20 | CR6        | T0  | 07        |    | C5        | B3  |    | AKA         | OSA |    | 1E18        | 1TF                |    |

|           |         |      |         |     |      |         |      |      |      |
|-----------|---------|------|---------|-----|------|---------|------|------|------|
| 1SA<br>AP | CR3     | CR5  | T0      | C5  | B3   | OE18    | OSA  | 1E18 | 1TF  |
| 1SA<br>AP | CR2     | CR3  | T0      | OM  | B3   | OD      | OSA  | AKA  | 1TF  |
| 1SA<br>AP | .       | CR5  | T0      | C5  | B3   | OE18    | OSA  | 1E18 | .    |
| CR4-      | .       | CR2  | .       | OM  | .    | OD      | .    | AKA  | .    |
|           |         |      |         |     |      |         |      |      | 19   |
| 1SA<br>AP | TX      | CR5  | T0      | C5  | B3   | OE18    | OSA  | 1E18 | 1TF  |
| 1SA<br>AP | TX      | TXC  | C5      | AKA | B3   | TOX-    | TX-  | 1E18 | 1TF  |
| 1SA<br>AP | AC      | T0   | TX      | AKA | B3   | OE18    | OSA  | 1E18 | 1TF  |
| 1E18      | 1TF     | C4-  | TX      | T0  | C5   | CR3     | B3   | OE18 | OSA  |
| 1SA       | TSO     | C4   | .       | AC  | C5   | OMDL    | .    | OE18 | OSA  |
| 1E18      | 1TF     | AP   | TX      | T0  | C5   | CR3     | B3   | OE18 | OSA  |
| AX-       | 1TF     | AP   | .       | TSO | .    | OMDL    | .    | AKA  | .    |
| 1SA       | C4      | C5   | CR3     | B3  | OE18 | OSA     | 1E18 | 1TF  | AP   |
| 1SA       | 22 TOX- | C2   | OMDL    | OM  | 04   | TX      | AKA  | T0   | CR3  |
| B3        | C5      | C2   | B6      | TP  | AP   | .       | C3   | .    | AKA  |
| 1SA       | OE18    | OSA  | 1E18    | 1TF | .    | .       | A0-  | .    | 07   |
| B3        | 22 TOX- | TX-  | .       | .   | TP   | TX      | C3   | T0   | CR3  |
| 1SA       | A0      | C2   | B6      | B4  | AP   | TX      | C3   | .    | AKA  |
| B3        | OE18    | OSA  | 1E18    | 1TF | AP   | 24 T01C | C5-  | .    | 07   |
| .         | 08 OX   | .    | 22 TOX- | TX- | .    | .       | B64- | .    | .    |
| 1SA       | A0      | C5   | B6      | B4  | TP   | TX      | C3   | T0   | CR3  |
| B3        | OE18    | OSA  | 1E18    | 1TF | AP   | .       | C2-  | .    | AKA  |
| 1SA       | 22 TOX- | TX-  | C2      | T0  | CR3  | B3      | OE18 | OSA  | 1E18 |
| 1TF       | A0      | C5   | C2      | TP  | OM   | .       | AKA  | CR3  | B3   |
| 1SA       | AP      | C5   | T01C    | TX  | 04   | 23 T01C | T0   | .    | AKA  |
| OE18      | A0      | 1E18 | 1TF     | AP  | .    | .       | B64- | .    | 07   |
| 1SA       | 22 TOX- | TX-  | .       | .   | TP   | TX      | C3   | T0   | CR3  |
| B3        | A0      | C5   | C2      | B4  | AP   | .       | T01C | B64- | B6-  |
| 1SA       | OE18    | OSA  | 1E18    | 1TF | TP   | TX      | C3   | T0   | CR3  |
| B3        | AKA     | C5   | TOX-    | TX- | AP   | .       | T01C | B64- | B4-  |
| 1SA       | A0      | C5   | C2      | B6  | TP   | TX      | C3   | T0   | CR3  |
| B3        | OE18    | OSA  | 1E18    | 1TF | AP   | .       | T01C | B64- | B4-  |
| 1SA       | AKA     | C5   | TOX-    | TX- | AP   | .       | T01C | T0   | CR3  |
| B3        | AKA     | C5   | TOX-    | TX- | AP   | .       | T01C | TPA- | .    |
| AKA       | OE18    | OSA  | 1E18    | 1TF | AP   | .       | T01C | .    | 07   |

060

|           |    |                   |           |                    |                  |          |      |          |            |            |            |
|-----------|----|-------------------|-----------|--------------------|------------------|----------|------|----------|------------|------------|------------|
| 1SA<br>B3 | 07 | A0<br>OE18<br>AKA | C5<br>OSA | C2<br>1E18<br>TOX- | B6<br>1TF<br>TX- | B4<br>AP | TX   | C3<br>23 | C3<br>TO1C | T0<br>TPA- | CR3<br>TP- |
| 1SA<br>B3 |    | A0<br>OE18        | C5<br>OSA | C2<br>1E18         | B6<br>1TF        | B4<br>AP | TP   | 23       | C3<br>TO1C | T0<br>TX-  | CR3        |
| OM        |    | 07                | AKA       |                    |                  | AP       |      |          |            |            | 04         |
| 1SA       |    | A0                | C5        | C2                 | B6               | B4       | TP   | 23       | TX         | T0         | CR3        |
| B3        |    | OE18              | OSA       | 1E18               | 1TF              | AP       |      |          | TO1C       | C3-        | 07         |
| AKA       |    |                   | TOX-      | TX-                |                  | TX       | C3   |          | T0         | CR3        | 08         |
| 1SA       |    | C2                | B6        | B4                 | TP               |          | 24   |          | 07         | AKA        | 07         |
| OE18      |    | OSA               | 1E18      | 1TF                | AP               |          |      |          |            |            | 08         |
| OX        |    |                   | 22        | TX-                |                  |          |      |          |            |            | 07         |
| 1SA       |    | C5                | 22        | C2                 | B6               | B4       | TP   |          | TX         | C3         | 07         |
| CR3       |    | B3                | OE18      | OSA                | 1E18             | 1TF      | AP   |          |            | C5         | 07         |
| AKA       |    |                   | 22        | TOX-               |                  | 23       | B64- |          |            |            |            |
| 1SA       |    | L0                | B6        | B4                 | TP               | TX       |      |          | T0         | CR3        | B3         |
| OE18      |    | OSA               | 1E18      | 1TF                | AP               |          |      |          |            | AKA        |            |
| OX        |    |                   | 22        | TOX-               |                  |          |      |          |            |            | 08         |
| 1SA       |    | L0                | C2        | T0                 | CR3              | B3       | OE18 |          | OSA        | 1E18       | 1TF        |
| AP        |    |                   | 24        | TO1C               | OM               |          | 07   |          |            |            |            |
| 1SA       |    | IX                | B6        | B4                 | B2               | B1       | D    |          | T0         | C5         | CR3        |
| OE18      |    | OSA               | 1E18      | 1TF                | AP               |          | 25   |          |            | OM         |            |
| AKA       |    |                   |           |                    |                  |          |      |          |            |            | 07         |
| 1SA       |    | AX                | B6        | B4                 | B2               | B1       | D    |          | T0         | C5         | CR3        |
| OE18      |    | OSA               | 1E18      | 1TF                | AP               |          | 25   |          |            | OM         |            |
| AKA       |    |                   | 11        | OLP                |                  |          |      |          |            |            | 07         |
| 1SA       |    | B3                | AX        | IX                 | T0               | C5       | CR3  | 07       | OE18       | OSA        | 1E18       |
| 1TF       |    | AP                | 25        | QT1                |                  | OM       |      |          | AKA        |            | 11         |
| K06-      |    |                   | 18        | AX-                | B1               | D        |      |          | C5         | CR3        | OE18       |
| 1SA       |    | AX                | IX        | B2                 | B1               |          | T0   |          |            | OM         |            |
| OSA       |    | 1E18              | 1TF       | AP                 |                  | 25       | QT1  |          |            |            | 07         |
| AKA       |    |                   | 11        | OLP                |                  | 18       | AX-  |          |            |            |            |
| 1SA       |    | AX                | IX        | B4                 | B2               | B1       | D    |          | T0         | C5         | CR3        |
| OE18      |    | OSA               | 1E18      | 1TF                | AP               |          | 25   |          | B64-       |            | 04         |
| OM        |    |                   | 07        | B6                 | B2               | B1       | D    | 18       | AX-        | C5         | CR3        |
| 1SA       |    | AX                | IX        | B6                 | B2               | B1       | D    |          | T0         | C5         | CR3        |
| OE18      |    | OSA               | 1E18      | 1TF                | AP               |          | 25   |          | B64-       |            | 04         |
| OM        |    |                   | 07        | AX                 | OLP              |          |      |          |            |            |            |
| 1SA       |    | B3                | AX        | IX                 | IX               | B4       | D    |          | T0         | C5         | CR3        |
| OE18      |    | OSA               | 1E18      | 1TF                | AP               |          | 25   |          | BL4        | C5         | CR3        |
| OX        |    |                   | 11        | OLP                |                  |          | 18   |          |            |            | 04         |
| 1SA       |    | AX                | IX        | IX                 | B6               | B1       | D    |          | T0         | C5         | CR3        |
| OE18      |    | OSA               | 1E18      | 1TF                | AP               |          | 25   |          | BL4        | C5         | CR3        |
| OM        |    |                   | 07        | AX                 | OLP              |          |      |          |            |            |            |
| 1SA       |    | B3                | AX        | IX                 | IX               | B4       | D    |          | T0         | C5         | CR3        |
| OE18      |    | OSA               | 1E18      | 1TF                | AP               |          | 25   |          | BL4        | C5         | CR3        |
| OX        |    |                   | 11        | OLP                |                  |          | 18   |          |            |            | 04         |
| 1SA       |    | AX                | IX        | IX                 | B6               | B1       | D    |          | T0         | C5         | CR3        |
| OE18      |    | OSA               | 1E18      | 1TF                | AP               |          | 25   |          | BL4        | C5         | CR3        |
| OM        |    |                   | 07        | AX                 | OLP              |          |      |          |            |            |            |
| 1SA       |    | B3                | AX        | IX                 | IX               | B4       | D    |          | T0         | C5         | CR3        |
| OE18      |    | OSA               | 1E18      | 1TF                | AP               |          | 25   |          | BL4        | C5         | CR3        |
| OX        |    |                   | 11        | OLP                |                  |          | 18   |          |            |            | 04         |
| 1SA       |    | AX                | IX        | IX                 | B6               | B1       | D    |          | T0         | C5         | CR3        |
| OE18      |    | OSA               | 1E18      | 1TF                | AP               |          | 25   |          | BL4        | C5         | CR3        |
| OM        |    |                   | 07        | AX                 | OLP              |          |      |          |            |            |            |
| 1SA       |    | B3                | AX        | IX                 | IX               | B4       | D    |          | T0         | C5         | CR3        |
| OE18      |    | OSA               | 1E18      | 1TF                | AP               |          | 25   |          | BL4        | C5         | CR3        |
| OM        |    |                   | 07        | AX                 | OLP              |          |      |          |            |            |            |





## Tape stops Marker number

|     |  |  |   |   |   |   |   |  |   |                               |          |
|-----|--|--|---|---|---|---|---|--|---|-------------------------------|----------|
| 096 | 1SA<br>OTF<br>1SA<br>OTF<br>1SA<br>OTF<br>1SA<br>1E18<br>ERR-  | D<br>D<br>D<br>D<br>D<br>D<br>AK<br>OTF<br>PE-               | E<br>.<br>E<br>E<br>.<br>D<br>D<br>.  | IC<br>*TD<br>IC<br>KED2<br>IC<br>KED2<br>K<br>*TD<br>03<br>03<br>03<br>05<br>05<br>03 | TP<br>.<br>K<br>.<br>K<br>.<br>OB3<br>*ER<br>PS                     | E4<br>TP<br>*TD<br>TP<br>*TD<br>OFLO<br>.                       | PS<br>.<br>PS<br>PS<br>PS<br>PS<br>E4<br>ICP                        | OE18<br>1SA<br>OE18<br>05<br>OE18<br>04<br>PS<br>KDIC<br>. | 1E18<br>1E18<br>E<br>1E18<br>E<br>1SA<br>.                  | 02                            |          |
| 097 | D or test, zero side. Logic for zero side D is on boards 231, 232. Logic for matrix 009 and/or shorting cable 012. |  |   |   |   |   |   |  |   |                               |          |
|     | OSA<br>D<br>1SA<br>OTF<br>OSA<br>OTF<br>1SA<br>OSA<br>OE18<br>1SA<br>OSA<br>02<br>1SA<br>OSA<br>05                 | TX<br>B2<br>D<br>TX<br>D<br>B2<br>TX<br>OSA<br>B2<br>TX<br>D | CR5<br>01<br>CR6<br>D<br>D<br>06<br>CR7<br>1E18<br>CR5<br>D<br>D<br>OSA<br>CR7<br>OP3 | D<br>OB5<br>.<br>E<br>OE18<br>CR6<br>OTF<br>03<br>E<br>1E18<br>OE18<br>OP1            | 01<br>02<br>.<br>K<br>OSA<br>D<br>D<br>02<br>K<br>OTF<br>OSA<br>TSO | K<br>04<br>OB5<br>1E18<br>E<br>OE18<br>OB5<br>D<br>1E18<br>OE18 | OE18<br>03<br>03<br>OTF<br>K<br>03<br>OSA<br>06<br>04<br>OTF<br>OSA | OSA<br>1E18<br>OE18<br>06<br>OE18<br>OTF<br>.              | OTF<br>1E18<br>1E18<br>.<br>02<br>05<br>.<br>D<br>1E18<br>. | 02<br>05<br>.<br>D<br>04<br>. |          |
| 098 | 1SA<br>1E18<br>OSA<br>1SA<br>1E18  | AK<br>OTF<br>CP6<br>AK<br>OTF                                | CP6<br>D<br>D<br>E<br>D   | E<br>05<br>OP2<br>K<br>.  | K<br>PS<br>OP3<br>06  | OP2<br>OE18<br>OP1<br>.   | PE<br>OSA<br>PE<br>.  | PS<br>1E18<br>TSO<br>.                                     | OE18<br>OTF<br>OE18<br>.                                    | OSA<br>D<br>OSA<br>.          |          |
| 099 | D and test, zero side.   |  |   |   |   |   |   |  |   |                               |          |
|     | 1SA<br>1TF<br>1SA<br>PE<br>KA<br>1SA<br>06-  | B2<br>D<br>AK<br>PS<br>K<br>B2<br>.                          | CR6<br>B2<br>OE18<br>.  | 06<br>OB5-<br>CR6<br>OSA<br>EAKO<br>04  | 05<br>K<br>1E18<br>E-<br>OE18                                       | 04<br>03<br>OB5<br>1TF<br>OSA                                   | 03<br>OP2<br>D<br>06<br>EAKO<br>1E18                                | OE18<br>06<br>E-<br>1TF<br>.                               | OSA<br>05<br>KA<br>D<br>.                                   | 1E18<br>04<br>.<br>.<br>.     | 02<br>02 |

|     |                   |             |             |             |            |             |            |             |             |             |
|-----|-------------------|-------------|-------------|-------------|------------|-------------|------------|-------------|-------------|-------------|
| 100 | 1SA<br>1E18<br>E- | AK<br>1TF   | B2<br>D     | K           | OP2<br>KA  | 06<br>.     | PE<br>EAKO | PS<br>E-    | OE18<br>.   | OSA<br>EAKO |
|     | 1SA<br>D          | B2<br>.     | CR5<br>ORB  | 06<br>.     | 05<br>01   | 03<br>OB5-  | OE18<br>03 | OSA<br>1E18 | 1E18<br>1TF | 06<br>D     |
|     | 1SA<br>.          | B2<br>03    | CR6<br>.    | 03<br>01    | 02<br>OB5- | 02<br>.     | 02<br>OSA  | 1E18<br>.   | 1TF<br>.    | 06<br>.     |
|     |                   | AK<br>OE18  | B2<br>OSA   | CR7<br>1E18 | K<br>1TF   | OP2<br>D    | 06<br>.    | 05<br>04    | 04<br>02    | PE<br>KA    |
|     | 1SA<br>PS         | B2<br>.     | 05<br>EAKO  | E-<br>OSA   | 06<br>1TF  | 06<br>EAKO  | E-<br>D    | 04<br>0Y    | 04<br>CR7-  | 01<br>.     |
|     | 1SA<br>OB5-       | AK<br>1E18  | 02<br>B2    | CR7<br>D    | E<br>.     | 04<br>E     | 06<br>.    | 05<br>KD1   | PS<br>K-    | 06<br>.     |
|     | 1SA<br>OSA        | K-<br>TX    | CR7<br>B2   | OE18<br>CP6 | OSA<br>E   | 1E18<br>OB5 | 1TF<br>02  | 05<br>06    | 04<br>TXF   | 06<br>.     |
|     | 1SA<br>OE18       | AK<br>B2    | 1E18<br>CP6 | 1TF<br>K    | D<br>OB5   | 05<br>01    | 05<br>06   | PS<br>K     | PS<br>.     | 06<br>.     |
|     | 1SA<br>1E18       | 1TF<br>K    | D<br>CP6    | 1TF<br>E    | 05<br>K    | 05<br>*GPH- | 06<br>.    | 06<br>CP6   | 02<br>KA    | 06<br>.     |
| CH  | 101               | 1SA<br>1TF  | AK<br>D     | E<br>05     | K<br>CP6   | PE<br>OP2-  | PS<br>CP6  | OE18<br>.   | 1E18<br>.   | 1E18<br>.   |
|     |                   | 1SA<br>OSA  | AK<br>1E18  | E<br>D      | CP6<br>1TF | 05<br>*GPH- | 06<br>OP1  | PS<br>CP6   | 06<br>CP6   | 06<br>CP6   |
|     |                   | 1SA<br>1TF  | AK<br>D     | E<br>05     | K<br>CP6   | 05<br>*GPH- | 06<br>PE   | OE18<br>.   | 1E18<br>.   | 1E18<br>.   |
| CH  | 102               | 1SA<br>1E18 | AK<br>1TF   | E<br>.      | K<br>CP6   | OP2<br>F14  | PE<br>.    | PS<br>CP6   | OE18<br>.   | OSA<br>.    |

1. Depress and hold COMPUTE button on the control panel.
2. Start the tape reader.

**Tape stops**  
**Marker number**

|     |     |   |      |         |      |         |      |       |     |      |       |
|-----|-----|---|------|---------|------|---------|------|-------|-----|------|-------|
| CH  | 103 | Release the COMPUTE button. Start the tape reader.  |      |         |      |         |      |       |     |      |       |
|     |     | 1SA   | AK   | CP6     | E    | K       | OP2  | PE    | TS0 | PS   | OE18  |
|     |     | OSA   | 1E18 | 1TF     | D    |         | 05   |       | CP6 |      |       |
|     |     | 1SA   | AK   | B2      | E    |         | OP3  | OP1   | 06  | PE   | TS0   |
|     |     | OE18  | OSA  | 1E18    | 1TF  | D       |      | 06    | TS0 | OE18 | OSA   |
|     |     | 1SA   | B2   | K       | OB5  | OB3     | OP1  | 06    | K   |      | 02 KA |
|     |     | 1E18  | 1TF  | D       |      | 06 EAKO |      | 01 KA |     |      |       |
|     |     | K   |      |         |      |         |      |       |     |      |       |
|     |     | 1. Depress matrix button 8.<br>2. Depress matrix button F.<br>3. Depress weapon type 1 button.<br>4. Depress battery A button.<br>5. Start the tape reader. |      |         |      |         |      |       |     |      |       |
| 104 |     | C3 or test, one side. Logic for one side C3 is on boards 227, 228, 332, 401, 402, 403, 404, 405. Logic for matrix 009 and/or shorting cable 012.            |      |         |      |         |      |       |     |      |       |
|     |     | OSA   | TX   | CR3     | OE18 | 1SA     | 1E18 | 1TF   | C3  | 01   |       |
|     |     | 1SA   | B2   | C3      | ND   | OE18    | 1SA  | 1E18  | 1TF | C3   | 01    |
|     |     | OSA   | T0   | E       | K    | 05      | 04   | 03    | 02  | E1   | PS    |
|     |     | OE18  | 1SA  | 1E18    | 1TF  | C3      | D4   | D3    | 06  | TP   | E2    |
|     |     | 1SA   | TX   | C3      | D7   | D5      | C3   | 03    | 02  | E4   | OE18  |
|     |     | E4  | OE18 | 1SA     | 1E18 | 1TF     | 05   | 04    | 02  | C3   | 06    |
|     |     | OSA   | B4   | E       | C3   |         | B3   | B2    | B1  | C3   |       |
|     |     | 1SA   | 1E18 | 1TF     | C3   | B5      | C3   | 03    | 03  | 02   | E4    |
|     |     | 1SA   | T0   | TX      | B6   | 1TF     | C3   | 04    | 03  | 02   | E4    |
|     |     | TP  | OE18 | 1SA     | 1E18 | K       | 05   | 04    | 03  | 02   | E4    |
|     |     | OSA   | B4   | B2      | E    | C3      |      |       |     |      |       |
|     |     | OE18  | 1SA  | 1E18    | 1TF  | C3      |      |       |     |      |       |
| 105 |     | 1SA   | T0   | TX      | B6   | B5      | B3   | B1    | C3  | 06   | TP    |
|     |     | OE18  | 1SA  | 1E18    | 1TF  | C3      |      | 04    |     |      |       |
|     |     | OSA   | B4   | B2      | B1   | E       | K    | 05    | 04  | 03   | 02    |
|     |     | E4  | OE18 | 1SA     | 1E18 | 1TF     | C3   |       | 05  | TP   | OE18  |
|     |     | 1SA   | T0   | TX      | B6   | B5      | B3   | C3    | 06  | 02   | E4    |
|     |     | OSA   | B4   | 1TF     | C3   |         | 05   | 04    | 03  | 02   | E4    |
|     |     | OE18  | 1SA  | 1E18    | 1TF  | C3      |      | 06    | 06  |      |       |
|     |     | 1SA   | T0   | TX      | B6   | B5      | B3   | B1    | C3  | 06   | TP    |
| CH  | 106 | C3 and test, one side.  |      |         |      |         |      |       |     |      |       |
|     |     | 1SA   | T0   | TX      | B6   | B4      | B2   | B1    | C3  | D5   | ND    |
|     |     | OP1   | 06   | TP      | E2   | OE18    | 1SA  | 1E18  | OTF | C3   | 06    |
|     |     | TRS   |      | 01 NDX- | TXF  | TX      |      | *F15  | PS- |      |       |

|     |      |     |      |     |    |    |     |    |      |
|-----|------|-----|------|-----|----|----|-----|----|------|
| 1SA | TO   | TX  | B6   | B5  | C3 | ND | OP3 | 06 | TP   |
| PS  | OE18 | 1SA | 1E18 | OTF | C3 | .  | 06  | .  | 01   |
| TXF | TX   | .   | .    | .   | .  | .  | BL4 | .  | NDX- |

1. Depress matrix button G.
2. Depress battery B button.
3. Start the tape reader

107 C7 or test, one side. Logic for one side C7 is on boards 206, 207, 208, 402, 403, 404, 405, 407.  
Logic for matrix 009 and/or shorting cable 012.

|      |      |      |      |      |      |     |      |      |      |
|------|------|------|------|------|------|-----|------|------|------|
| OSA  | TX   | CR7  | OE18 | 1SA  | 1E18 | 1TF | C7   | 01   | .    |
| 1SA  | B2   | C7   | ND   | 1SA  | 1E18 | 1TF | 02   | C7   | 01   |
| OSA  | B3   | E    | K    | OE18 | 03   | 02  | OE18 | 1SA  | .    |
| 1E18 | 1TF  | C7   | 02   | 05   | .    | .   | TP   | OE18 | .    |
| 1SA  | TX   | B6   | B4   | B2   | C7   | 06  | .    | TP   | OE18 |
| 1SA  | 1E18 | 1TF  | C7   | .    | .    | .   | 02   | 02   | OE18 |
| OSA  | B4   | B1   | E    | K    | 04   | 03  | 02   | TP   | OE18 |
| 1SA  | 1E18 | 1TF  | C7   | B3   | C7   | 06  | .    | TP   | OE18 |
| 1SA  | TX   | B6   | B5   | B2   | 03   | 06  | .    | TP   | OE18 |
| 1SA  | 1E18 | 1TF  | C7   | 03   | 05   | 04  | 03   | 02   | .    |
| OSA  | B4   | B3   | B1   | E    | 04   | TP  | OE18 | 1SA  | .    |
| OE18 | 1SA  | 1E18 | 1TF  | C7   | 06   | TP  | OE18 | 1SA  | .    |
| 1SA  | TX   | B6   | B5   | B2   | 04   | .   | .    | .    | .    |
| 1E18 | 1TF  | C7   | .    | 04   | .    | .   | .    | .    | .    |

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|      |     |      |     |    |    |    |    |      |      |
|------|-----|------|-----|----|----|----|----|------|------|
| OSA  | B4  | B3   | B2  | E  | K  | 05 | 04 | 03   | 02   |
| OE18 | 1SA | 1E18 | 1TF | C7 | C7 | 05 | TP | OE18 | 1SA  |
| 1SA  | TX  | B6   | B5  | B1 | 05 | 06 | .  | OE18 | 1SA  |
| 1E18 | 1TF | C7   | 05  | 05 | 04 | 03 | 02 | OE18 | 1SA  |
| OSA  | B5  | E    | K   | 06 | B1 | C7 | 06 | TP   | OE18 |
| 1E18 | 1TF | C7   | B3  | B2 | 06 | .  | .  | .    | .    |
| 1SA  | TX  | B6   | B3  | B2 | 06 | .  | .  | .    | .    |
| 1SA  | 1TF | C7   | .   | 06 | .  | .  | .  | .    | .    |

CH

109

C7 and test, one side.

|     |      |     |      |     |      |      |      |      |      |
|-----|------|-----|------|-----|------|------|------|------|------|
| 1SA | TX   | B6  | B5   | B4  | B3   | B2   | B1   | C7   | D6   |
| D3  | ND   | 06  | TP   | E2  | OE18 | 1SA  | 1E18 | OTF  | C7   |
| .   | 06   | TRC | NDX- | TXF | TX   | 02   | T1   | BL4  | B3   |
| 1SA | C7   | B6  | 06   | TX  | TP   | OE18 | 1SA  | 1E18 | OTF  |
| C7  | .    | 06  | BLO  | B3  | C7   | D8   | 06   | TP   | OE18 |
| 1SA | TX   | B6  | B4   | B3  | 07   | F12  | .    | 10   | B6   |
| 1SA | 1E18 | OTF | C7   | .   | .    | .    | .    | TOP  | .    |
| .   | 16   | TLC | B6   | .   | .    | .    | .    | .    | .    |

1. Depress battery C button.
2. Start the tape reader.



| Tape stops | Marker number |
|------------|---------------|
| 1          | 1             |
| 2          | 2             |
| 3          | 3             |
| 4          | 4             |
| 5          | 5             |
| 6          | 6             |
| 7          | 7             |
| 8          | 8             |
| 9          | 9             |
| 10         | 10            |
| 11         | 11            |
| 12         | 12            |
| 13         | 13            |
| 14         | 14            |
| 15         | 15            |
| 16         | 16            |
| 17         | 17            |
| 18         | 18            |
| 19         | 19            |
| 20         | 20            |
| 21         | 21            |
| 22         | 22            |
| 23         | 23            |
| 24         | 24            |
| 25         | 25            |
| 26         | 26            |
| 27         | 27            |
| 28         | 28            |
| 29         | 29            |
| 30         | 30            |
| 31         | 31            |
| 32         | 32            |
| 33         | 33            |
| 34         | 34            |
| 35         | 35            |
| 36         | 36            |
| 37         | 37            |
| 38         | 38            |
| 39         | 39            |
| 40         | 40            |
| 41         | 41            |
| 42         | 42            |
| 43         | 43            |
| 44         | 44            |
| 45         | 45            |
| 46         | 46            |
| 47         | 47            |
| 48         | 48            |
| 49         | 49            |
| 50         | 50            |
| 51         | 51            |
| 52         | 52            |
| 53         | 53            |
| 54         | 54            |
| 55         | 55            |
| 56         | 56            |
| 57         | 57            |
| 58         | 58            |
| 59         | 59            |
| 60         | 60            |
| 61         | 61            |
| 62         | 62            |
| 63         | 63            |
| 64         | 64            |
| 65         | 65            |
| 66         | 66            |
| 67         | 67            |
| 68         | 68            |
| 69         | 69            |
| 70         | 70            |
| 71         | 71            |
| 72         | 72            |
| 73         | 73            |
| 74         | 74            |
| 75         | 75            |
| 76         | 76            |
| 77         | 77            |
| 78         | 78            |
| 79         | 79            |
| 80         | 80            |
| 81         | 81            |
| 82         | 82            |
| 83         | 83            |
| 84         | 84            |
| 85         | 85            |
| 86         | 86            |
| 87         | 87            |
| 88         | 88            |
| 89         | 89            |
| 90         | 90            |
| 91         | 91            |
| 92         | 92            |
| 93         | 93            |
| 94         | 94            |
| 95         | 95            |
| 96         | 96            |
| 97         | 97            |
| 98         | 98            |
| 99         | 99            |
| 100        | 100           |

[illegible]

1. Depress battery D button.
2. Start the tape reader.

112 C7 or test, one side. Logic for one side C7 is on boards 205, 207, 208, 323, 404. Logic for matrix 009.

[illegible]

|  |  |   |  |   |  |  |  |  |  |  |
|--|--|---|--|---|--|--|--|--|--|--|
| OSA<br>04<br>1SA<br>1SA<br>OSA<br>03<br>1SA<br>1TF | B6<br>03<br>TX<br>1E18<br>B6<br>02<br>TX<br>C7   | B4<br>02<br>B5<br>1TF<br>B4<br>E2<br>B5   | B3<br>OE18<br>B2<br>C7<br>B3<br>OE18<br>B1   | B1<br>1SA<br>C7<br>B2<br>1SA<br>C7  | E<br>1TF<br>OP1<br>13<br>D4<br>1E18<br>06  | K<br>C7<br>06<br>E<br>1TF<br>TP                                      | OP3<br>TP<br>K<br>C7<br>OE18   | OP2<br>PS<br>05<br>1SA                                   | 05<br>OE18<br>04<br>1E18   |  |
| 114  | OSA<br>E2<br>1SA<br>1SA<br>OSA<br>02<br>1SA<br>1E18<br>OSA<br>02<br>T<br>T<br>OE18<br>1SA<br>T<br>T<br>OE18                    | B6<br>OE18<br>TX<br>1E18<br>B6<br>E2<br>TX<br>1TF<br>B6<br>I<br>I<br>1SA<br>TX<br>I<br>I<br>1SA | B5<br>1SA<br>B3<br>1TF<br>B5<br>OE18<br>B3<br>C7<br>B5<br>E7<br>M<br>M<br>1E18<br>B1<br>M<br>M<br>1E18 | D6<br>1E18<br>B2<br>C7<br>B2<br>1SA<br>C7<br>B3<br>E<br>E<br>1TF<br>C7<br>E<br>E<br>1TF | E<br>1TF<br>B1<br>B1<br>1E18<br>D8<br>B2<br>B2<br>C7<br>B3<br>E<br>E<br>C7<br>C7<br>06<br>C7 | 15<br>K<br>C7<br>C7<br>E<br>1TF<br>D5<br>E<br>D<br>D<br>TP<br>D<br>D | 15<br>05<br>D3<br>K<br>C7<br>06<br>K<br>E<br>E<br>E<br>E6<br>E<br>E        | 04<br>06<br>05<br>TP<br>05<br>L<br>L<br>L<br>L<br>L<br>L | 03<br>TP<br>04<br>OE18<br>04<br>03   | 02<br>OE18<br>03<br>03<br>03<br>Y<br>Y<br>Y<br>Y<br>Y<br>Y     |
| 115  | C7 and test, one side.<br>1SA<br>OE18<br>1SA<br>03<br>C7<br>1SA<br>OE18<br>TX<br>1SA<br>1E18<br>T1<br>PS<br>TXF<br>1SA<br>1E18 | B6<br>1SA<br>C7<br>02<br>TX<br>1SA<br>TX<br>OTF<br>BL4<br>TX<br>OTF<br>TX<br>C7<br>OTF          | B4<br>1E18<br>D6<br>E2<br>NDX-<br>01<br>B6<br>1E18<br>BLO<br>B6<br>C7<br>B1-<br>B6<br>1SA<br>B1<br>C7  | B2<br>OTF<br>D5<br>B4<br>OTF<br>B1-<br>B2<br>B5<br>1E18<br>06<br>B1<br>C7               | B1<br>C7<br>D4<br>E7<br>B3<br>C7<br>C7<br>TRS<br>C7<br>OTF<br>TX<br>TRS                      | CR7<br>D3<br>B2<br>BL3<br>ND<br>ND<br>C7<br>TP                       | 01<br>CR7<br>E<br>OE18<br>C7<br>TRS<br>B2<br>06<br>NDX-<br>01<br>OP2<br>B5 | ND<br>K<br>1SA<br>ND<br>TP<br>TXF<br>OP1<br>BL5<br>B4    | 06<br>05<br>1E18<br>06<br>NDX-<br>01<br>OE18<br>TX<br>06<br>NDX-<br>01<br>OE18 | TP<br>04<br>OTF<br>TP<br>TXF<br>1SA<br>TP<br>NDX-<br>01<br>1SA |

Tape stops  
Marker number

|    |     |      |      |      |    |     |      |      |      |     |
|----|-----|------|------|------|----|-----|------|------|------|-----|
| CH | 116 | TX   | B6   | B5   | B3 | C7  | 06   | TP   | OE18 | 1SA |
|    |     | OTF  | C7   | B4   | 05 | BL6 | B1   | C7   | ND   | 06  |
|    |     | TX   | B6   | 1E18 | 02 | OTF | B3   | *F10 | F10  | 01  |
|    |     | OE18 | 1SA  | TX   | 15 | TLC | B3   | 06   | T15  | TOP |
|    |     | TXF  | TX   | B6   | B6 | TX  | D5   | 06   | TP   | E2  |
|    |     |      | TX   | B5   | B3 | C7  | 07   | TRC  | BL1  | B2- |
|    |     | 1SA  | 1E18 | OTF  | C7 | TP  | OE18 | 1SA  | 1E18 | OTF |
|    |     | C7   | B6   | 06   | TX | TP  | 06   | 03   | 03   | 03  |
|    |     |      | 07   | BL3  | TP | TP  | 06   | 03   | 03   | 03  |

1. Depress battery E button.
2. Start the tape reader

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C3 or test, one side. Logic for one side C3 is on boards 208, 226, 227, 228. Logic for matrix 009.

|      |      |      |      |      |     |     |      |     |      |
|------|------|------|------|------|-----|-----|------|-----|------|
| OSA  | B5   | B3   | B2   | B1   | E   | K   | 05   | 04  | 03   |
| 02   | E4   | OE18 | 1SA  | 1E18 | 1TF | C3  | 05   | 08  | 1E18 |
| 1SA  | T0   | TX   | B6   | C3   | 06  | TP  | OE18 | 1SA | 1E18 |
| 1TF  | C3   | 08   | 08   | 08   | 08  | 08  | 08   | 08  | 08   |
| OSA  | B5   | B3   | B2   | B1   | OP3 | OP2 | 05   | 04  | 03   |
| 02   | E4   | OE18 | 1SA  | 1E18 | 1TF | C3  | 05   | 09  | 03   |
| 1SA  | T0   | TX   | B6   | B2   | B1  | C3  | OP1  | 06  | TP   |
| PS   | OE18 | 1SA  | 1E18 | 1TF  | C3  | 09  | 04   | 03  | 02   |
| OSA  | B6   | B1   | D4   | E    | K   | 05  | 04   | 03  | 02   |
| E2   | E4   | OE18 | 1SA  | 1E18 | 1TF | C3  | 05   | 10  | 06   |
| 1SA  | T0   | TX   | B4   | B3   | B2  | C3  | D7   | 06  | TP   |
| OE18 | 1SA  | 1E18 | 1TF  | C3   | 03  | 10  | 05   | 04  | 03   |
| OSA  | B6   | B3   | B2   | E    | K   | OP1 | 05   | 04  | 03   |
| 02   | E4   | OE18 | 1SA  | 1E18 | 1TF | C3  | 11   | 11  | 11   |

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|      |      |      |      |      |      |      |     |      |     |
|------|------|------|------|------|------|------|-----|------|-----|
| ISA  | T0   | TX   | B4   | B1   | C3   | OP3  | OP2 | 06   | TP  |
| PS   | OE18 | ISA  | 1E18 | 1TF  | C3   | OP1  | 05  | 04   | 03  |
| OSA  | B6   | B4   | E    | K    | OP2  | C3   | 11  | 12   | 06  |
| 02   | E4   | OE18 | 1E18 | 1E18 | 1TF  | B1   | 12  | OP3  | 06  |
| ISA  | T0   | TX   | B5   | B3   | B2   | C3   | OP1 | 05   | 04  |
| TP   | PS   | OE18 | 1E18 | 1E18 | 1TF  | C3   | 13  | 06   | 13  |
| OSA  | B6   | B4   | B2   | E    | K    | OP3  | OP2 | 06   | TP  |
| 03   | 02   | E4   | OE18 | 1E18 | 1E18 | 1TF  | C3  | 05   | 04  |
| ISA  | T0   | TX   | B5   | B3   | B1   | C3   | 13  | 06   | 14  |
| PS   | OE18 | ISA  | 1E18 | 1TF  | D3   | E    | K   | 05   | 04  |
| OSA  | B6   | B4   | B2   | B1   | ISA  | 1E18 | TP  | C3   | 15A |
| 03   | 02   | E4   | E4   | OE18 | C3   | 06   | TP  | OE18 | 14  |
| ISA  | T0   | TX   | B5   | B3   | C3   | 06   | TP  | 05   | 04  |
| 1E18 | 1TF  | C3   | 14   | 14   | 14   | 14   | 14  | 14   | 14  |

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|     |      |     |      |      |      |     |      |     |      |
|-----|------|-----|------|------|------|-----|------|-----|------|
| OSA | B6   | B4  | B3   | D5   | E    | K   | 05   | 04  | 03   |
| 02  | E2   | E4  | OE18 | 1E18 | 1E18 | 1TF | C3   | TP  | 15   |
| ISA | T0   | TX  | B5   | B2   | B1   | C3  | 06   | 06  | OE18 |
| OSA | B6   | 1TF | C3   | D7   | E    | K   | 05   | 04  | 03   |
| 02  | E4   | B5  | B1   | 1E18 | 1E18 | 1TF | C3   | TP  | 16   |
| ISA | T0   | TX  | OE18 | ISA  | C3   | D4  | 06   | TP  | OE18 |
| ISA | 1E18 | 1TF | B3   | B2   | B1   | E   | K    | 05  | 04   |
| OSA | B6   | B5  | B3   | B2   | 1E18 | 1TF | C3   | 05  | 04   |
| 03  | 02   | E4  | OE18 | ISA  | TP   | E1  | OE18 | 15A | 17   |
| ISA | T0   | TX  | C3   | 06   | TP   | E1  | 06   | 15A | 1E18 |
| 1TF | C3   | 17  | 17   | 17   | 17   | 17  | 17   | 17  | 17   |

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C3 and test, one side.

|      |      |      |      |      |     |      |     |      |      |
|------|------|------|------|------|-----|------|-----|------|------|
| ISA  | B6   | B5   | B3   | B2   | B1  | CR3  | C3  | ND   | 06   |
| TP   | E4   | OE18 | 1E18 | 1E18 | OTF | C3   | 01  | CR3  | 06   |
| ISA  | T0   | C3   | D7   | D5   | D4  | D3   | E   | K    | 05   |
| 04   | 03   | 02   | E2   | OE18 | ISA | 1E18 | OTF | C3   | 01   |
| NDX- | 03   | 02   | E2   | OE18 | ISA | 1E18 | OTF | C3   | 01   |
| ISA  | T0   | TX   | B6   | B4   | B3  | B2   | B1  | C3   | ND   |
| 06   | TP   | OE18 | 1E18 | 1E18 | OTF | C3   | 03  | TRS  | 01   |
| NDX- | TX   | TX   | TX   | TX   | TP  | B6   | B5  | OE18 | 15A  |
| ISA  | C3   | T0   | TX   | TX   | B1  | C3   | 06  | TP   | OE18 |
| 1E18 | OTF  | C3   | TX   | TX   | TP  | C3   | 06  | TP   | OE18 |
| ISA  | T0   | TX   | B4   | B3   | B1  | C3   | 06  | TP   | OE18 |
| ISA  | 1E18 | OTF  | C3   | C3   | TRS | ND   | OP3 | TP   | PS   |
| ISA  | T0   | TX   | C3   | B6   | C3  | 04   | 01  | NDX- | TXF  |
| OE18 | ISA  | 1E18 | OTF  | OTF  | OTF | 04   | 01  | NDX- | TXF  |
| TX   | TX   | TX   | TX   | TX   | TX  | TX   | TX  | TX   | TX   |

CH 121

1. Depress matrix button 1.
2. Depress matrix button A.
3. Depress weapon type 2 button.
4. Start the tape reader.

C7 and test, one side. Logic for one side C7 is on boards 206, 207, 208, 402, 403, 404, 405, 407. Logic for matrix 009 and/or shorting cable 012.

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|     |   |   |   |  |  |   |  |   |   |  |
|-----|---|---|---|--|--|---|--|---|---|--|
| 124 | TP<br>C7<br>1SA<br>PS<br>TXE                                      | E2<br>TX<br>OE18<br>TX  | 08<br>TRC<br>B6<br>1SA  | E7<br>B3<br>1E18<br>TR5  | 02<br>T1<br>B2<br>OTF<br>B5-   | PS<br>BL4<br>C7<br>C7   | OE18<br>B2-<br>ND  | 1SA<br>OP3<br>BL6   | 1E18<br>06<br>01  | OTF<br>TP<br>NDX-  |
|     | 1SA<br>OP3  | TX<br>OP1<br>*F16<br>T19<br>TX<br>TP<br>E2<br>BL4<br>TX<br>06                   | B4<br>06<br>D3<br>BL4<br>B4<br>E2<br>B3<br>B6<br>TP<br>NDX-                     | B3<br>TP<br>B3<br>B3<br>PS<br>NDX-                             | B2<br>PS<br>ND-<br>B2<br>OE18<br>TXF<br>*F28<br>B2<br>OE18<br>TX<br>B1<br>OE18 | B1<br>OE18<br>TXF<br>*F28<br>B1<br>1SA<br>TX<br>E2<br>B1<br>1SA<br>CR7<br>1SA<br>D5<br>D5 | C7<br>1SA<br>TX<br>D6<br>C7<br>1E18<br>06  | D6<br>1E18<br>ND<br>OTF<br>TRC<br>D6<br>OTF<br>F2<br>D6<br>OTF<br>TP<br>TRC | D3<br>OTF<br>TRC<br>06<br>OP3<br>C7<br>B6-<br>D5<br>C7<br>E<br>C7<br>OE18<br>B6-      | ND<br>C7<br>B6-<br>OP1<br>D4<br>K<br>1SA   |
|     | 09<br>11  | 09<br>11  | 01  | 15   | 01   | 15  | 02   | 09  | 09  | 16   |
|     | 1SA<br>ND<br>T15<br>1SA<br>05<br>OX<br>1SA<br>1E18<br>*F30        | TX<br>TX<br>OTF<br>TX<br>06<br>B4<br>04<br>TX<br>OTF<br>D8-                     | 01<br>B3<br>B6<br>TP<br>NDX-<br>B3<br>03  | B4<br>B7<br>TXF<br>B2<br>02<br>B3<br>B3<br>02                  | B2<br>PS<br>ND-<br>B2<br>OE18<br>TXF<br>*F28<br>B2<br>OE18<br>TX<br>B1<br>OE18 | B1<br>OE18<br>TXF<br>*F28<br>B1<br>1SA<br>TX<br>E2<br>B1<br>1SA<br>CR7<br>1SA<br>D5<br>D5 | C7<br>1SA<br>TX<br>D6<br>C7<br>1E18<br>06  | D6<br>1E18<br>ND<br>OTF<br>TRC<br>D6<br>OTF<br>F2<br>D6<br>OTF<br>TP<br>TRC | D3<br>OTF<br>TRC<br>06<br>OP3<br>C7<br>B6-<br>D5<br>C7<br>E<br>C7<br>OE18<br>B6-      | ND<br>C7<br>B6-<br>OP1<br>D4<br>K<br>1SA   |
|     | 125   | 1SA<br>1SA<br>1SA<br>1E18<br>1SA<br>OP1<br>C7<br>B6-<br>1SA<br>E6               | TX<br>1E18<br>*F30<br>TX<br>OTF<br>TX<br>06<br>BL3<br>*F20<br>B4<br>OE18<br>TXF | B3<br>C7<br>B5<br>B2<br>TP<br>BL3<br>*F20<br>B4<br>OE18<br>TXF | C7<br>B3<br>TOP<br>B1<br>E7<br>NDX-<br>B1<br>1E18<br>B3-<br>B1<br>OE18<br>TXF  | D8<br>*F18<br>C7<br>C7<br>C7<br>TXF<br>C7<br>OTF<br>T1<br>C7<br>1SA<br>TX<br>BLO          | 06<br>E2<br>06<br>BL1<br>D6<br>OE18<br>TX<br>ND<br>C7<br>B64<br>BL6<br>ND<br>1E18<br>B3- | TP<br>TP<br>B2-<br>D3<br>1SA<br>TP<br>OP1<br>B6-<br>B2<br>OP3<br>OTF<br>T1  | E2<br>TRC<br>OE18<br>ND<br>1E18<br>T1<br>06<br>*F20<br>09<br>OP2<br>C7<br>B64-<br>BL6 | OE18<br>B6-<br>1SA<br>OP3<br>OTF<br>B64-<br>TP<br>OP3-<br>T15<br>TP<br>OP3-<br>T15<br>OP1<br>B6-<br>B2 |
|     | 16  | 16  | 10<br>11  | 10   | 01   | 02  | 17   | 02  | 17  | 11   |
|     | 1SA<br>1SA<br>1SA<br>1E18<br>1SA<br>OP1<br>C7<br>B6-<br>1SA<br>E6 | TX<br>1E18<br>*F30<br>TX<br>OTF<br>TX<br>06<br>BL3<br>*F20<br>B4<br>OE18<br>TXF | B4<br>OTF<br>E2<br>B6<br>C7<br>B4<br>TP<br>BL3<br>*F20<br>B4<br>OE18<br>TXF     | B3<br>C7<br>B5<br>B2<br>TP<br>BL3<br>*F20<br>B4<br>OE18<br>TXF | C7<br>B3<br>TOP<br>B1<br>E7<br>NDX-<br>B1<br>1E18<br>B3-<br>B1<br>OE18<br>TXF  | D8<br>*F18<br>C7<br>C7<br>C7<br>TXF<br>C7<br>OTF<br>T1<br>C7<br>1SA<br>TX<br>BLO          | 06<br>E2<br>06<br>BL1<br>D6<br>OE18<br>TX<br>ND<br>C7<br>B64<br>BL6<br>ND<br>1E18<br>B3- | TP<br>TP<br>B2-<br>D3<br>1SA<br>TP<br>OP1<br>B6-<br>B2<br>OP3<br>OTF<br>T1  | E2<br>TRC<br>OE18<br>ND<br>1E18<br>T1<br>06<br>*F20<br>09<br>OP2<br>C7<br>B64-<br>BL6 | OE18<br>B6-<br>1SA<br>OP3<br>OTF<br>B64-<br>TP<br>OP3-<br>T15<br>TP<br>OP3-<br>T15<br>OP1<br>B6-<br>B2 |
|     | 16  | 16  | 10<br>11  | 10   | 01   | 02  | 17   | 02  | 17  | 11   |
|     | 1SA<br>1SA<br>1SA<br>1E18<br>1SA<br>OP1<br>C7<br>B6-<br>1SA<br>E6 | TX<br>1E18<br>*F30<br>TX<br>OTF<br>TX<br>06<br>BL3<br>*F20<br>B4<br>OE18<br>TXF | B4<br>OTF<br>E2<br>B6<br>C7<br>B4<br>TP<br>BL3<br>*F20<br>B4<br>OE18<br>TXF     | B3<br>C7<br>B5<br>B2<br>TP<br>BL3<br>*F20<br>B4<br>OE18<br>TXF | C7<br>B3<br>TOP<br>B1<br>E7<br>NDX-<br>B1<br>1E18<br>B3-<br>B1<br>OE18<br>TXF  | D8<br>*F18<br>C7<br>C7<br>C7<br>TXF<br>C7<br>OTF<br>T1<br>C7<br>1SA<br>TX<br>BLO          | 06<br>E2<br>06<br>BL1<br>D6<br>OE18<br>TX<br>ND<br>C7<br>B64<br>BL6<br>ND<br>1E18<br>B3- | TP<br>TP<br>B2-<br>D3<br>1SA<br>TP<br>OP1<br>B6-<br>B2<br>OP3<br>OTF<br>T1  | E2<br>TRC<br>OE18<br>ND<br>1E18<br>T1<br>06<br>*F20<br>09<br>OP2<br>C7<br>B64-<br>BL6 | OE18<br>B6-<br>1SA<br>OP3<br>OTF<br>B64-<br>TP<br>OP3-<br>T15<br>TP<br>OP3-<br>T15<br>OP1<br>B6-<br>B2 |



| Tape stops | Marker number |
|------------|---------------|
| 1          | 1             |
| 2          | 2             |
| 3          | 3             |
| 4          | 4             |
| 5          | 5             |
| 6          | 6             |
| 7          | 7             |
| 8          | 8             |
| 9          | 9             |
| 10         | 10            |
| 11         | 11            |
| 12         | 12            |
| 13         | 13            |
| 14         | 14            |
| 15         | 15            |
| 16         | 16            |
| 17         | 17            |
| 18         | 18            |
| 19         | 19            |
| 20         | 20            |
| 21         | 21            |
| 22         | 22            |
| 23         | 23            |
| 24         | 24            |
| 25         | 25            |
| 26         | 26            |
| 27         | 27            |
| 28         | 28            |
| 29         | 29            |
| 30         | 30            |
| 31         | 31            |
| 32         | 32            |
| 33         | 33            |
| 34         | 34            |
| 35         | 35            |
| 36         | 36            |
| 37         | 37            |
| 38         | 38            |
| 39         | 39            |
| 40         | 40            |
| 41         | 41            |
| 42         | 42            |
| 43         | 43            |
| 44         | 44            |
| 45         | 45            |
| 46         | 46            |
| 47         | 47            |
| 48         | 48            |
| 49         | 49            |
| 50         | 50            |
| 51         | 51            |
| 52         | 52            |
| 53         | 53            |
| 54         | 54            |
| 55         | 55            |
| 56         | 56            |
| 57         | 57            |
| 58         | 58            |
| 59         | 59            |
| 60         | 60            |
| 61         | 61            |
| 62         | 62            |
| 63         | 63            |
| 64         | 64            |
| 65         | 65            |
| 66         | 66            |
| 67         | 67            |
| 68         | 68            |
| 69         | 69            |
| 70         | 70            |
| 71         | 71            |
| 72         | 72            |
| 73         | 73            |
| 74         | 74            |
| 75         | 75            |
| 76         | 76            |
| 77         | 77            |
| 78         | 78            |
| 79         | 79            |
| 80         | 80            |
| 81         | 81            |
| 82         | 82            |
| 83         | 83            |
| 84         | 84            |
| 85         | 85            |
| 86         | 86            |
| 87         | 87            |
| 88         | 88            |
| 89         | 89            |
| 90         | 90            |
| 91         | 91            |
| 92         | 92            |
| 93         | 93            |
| 94         | 94            |
| 95         | 95            |
| 96         | 96            |
| 97         | 97            |
| 98         | 98            |
| 99         | 99            |
| 100        | 100           |

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|      |      |      |      |      |      |     |      |      |      |
|------|------|------|------|------|------|-----|------|------|------|
| 1SA  | TX   | B4   | B2   | B1   | C7   | ND  | OP3  | 06   | TP   |
| E6   | PS   | OE18 | 1SA  | 1E18 | OTF  | C7  | .    | *F20 | OP1- |
| .    | NDX- | TXF  | TX   | .    | 02   | 17  | B6-  | .    | 09   |
| BLO  | B3-  | .    | 15   | B3-  | .    | 17  | B2   | .    | .    |
| 1SA  | TX   | B6   | B4   | B2   | B1   | C7  | D6   | D5   | D4   |
| D3   | ND   | OP3  | OP1  | 06   | TP   | E2  | .    | E7   | .    |
| PS   | OE18 | 1SA  | 1E18 | OTF  | C7   | .   | 11   | .    | 01   |
| TXF  | TX   | .    | *F2  | F2   | .    | .   | .    | .    | NDX- |
| 1SA  | TX   | B5   | B3   | B2   | C7   | ND  | OP3  | OP2  | OP1  |
| 06   | TP   | PS   | OE18 | 1SA  | 1E18 | OTF | C7   | .    | 12   |
| OP3  | .    | NDX- | TXF  | TX   | .    | 03  | B6-  | .    | *F22 |
| 1SA  | TX   | B5   | B3   | B2   | C7   | ND  | OP1  | 06   | TP   |
| PS   | OE18 | 1SA  | 1E18 | OTF  | C7   | .   | *F22 | OP2- | 01   |
| TXF  | TXF  | TX   | .    | 03   | B6-  | .   | 13   | B3   | .    |
| NDX- |      |      |      |      |      |     |      |      |      |

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|      |      |      |      |      |      |      |     |     |     |
|------|------|------|------|------|------|------|-----|-----|-----|
| 1SA  | TX   | B5   | B3   | C7   | ND   | OP2  | 06  | TP  | 01  |
| PS   | OE18 | 1SA  | 1E18 | C7   | .    | *F22 | OP1 | .   | .   |
| NDX- | TXF  | TX   | .    | B6-  | .    | .    | OP1 | 06  | .   |
| 1SA  | TX   | B5   | B3   | C7   | ND   | OP2  | PS- | .   | 01  |
| TP   | OE18 | 1SA  | 1E18 | C7   | .    | *F22 | .   | .   | .   |
| NDX- | TXF  | TX   | .    | B6-  | .    | .    | .   | .   | .   |
| 1SA  | TX   | B6   | B5   | B2   | C7   | ND   | OP2 | OP1 | .   |
| 06   | TP   | PS   | OE18 | 1E18 | OTF  | C7   | .   | 12  | TLS |
| .    | NDX- | TXF  | TX   | *F4  | F4   | C7   | 04  | BL5 | B3  |
| 1SA  | TX   | B5   | B2   | C7   | D4   | ND   | OP2 | OP1 | .   |
| 06   | TP   | E2   | PS   | 1SA  | 1E18 | OTF  | C7  | .   | .   |
| BL1  | 01   | NDX- | TXF  | .    | .    | .    | .   | .   | .   |
| 1SA  | TX   | B5   | B2   | B1   | OP3  | OP1  | 06  | TP  | 01  |
| PS   | OE18 | 1SA  | 1E18 | C7   | .    | *F24 | OP3 | .   | .   |
| NDX- | TXF  | TX   | .    | B6-  | .    | .    | .   | .   | .   |

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|      |      |     |      |     |      |      |     |      |      |    |
|------|------|-----|------|-----|------|------|-----|------|------|----|
| 1SA  | TX   | B5  | B2   | C7  | ND   | OP2  | OP1 | 06   | TP   | 01 |
| PS   | OE18 | 1SA | 1E18 | OTF | C7   | .    | 13  | OP2  | .    |    |
| NDX- | TXF  | TX  | .    | TRS | 04   |      | 12  | B3-  |      |    |
| 1SA  | TX   | B5  | B2   | C7  |      | 06   | TP  | PS   | OE18 |    |
| 1SA  | 1E18 | OTF | C7   | 13  | *F24 | OP1- | .   | 01   | TXF  |    |
| TX   | .    | 04  | B6-  |     |      |      |     |      |      |    |
| 1SA  | TX   | TRS | B2   | C7  | ND   | OP1  | 06  | TP   | OE18 |    |
| 1SA  | 1E18 | OTF | C7   | 13  | *F24 | PS-  | .   | 01   | TXF  |    |
| TX   | .    | 04  | B6-  |     |      |      |     |      |      |    |
| 1SA  | TX   | TRS | B4   | B2  | C7   | ND   | OP1 | 06   | TP   |    |
| PS   | OE18 | 1SA | 1E18 | OTF | B2   | .    | 13  | .    | 01   |    |
| TXF  | TX   | .   | T1   | BL4 | C7   | ND   | TLS | .    |      |    |
| 1SA  | TX   | B5  | B3   | B2  | B1-  | D4   | ND  | OP1  | 06   |    |
| TP   | E2   | PS  | OE18 | 1SA | 1E18 | OTF  | C7  | 13   | BL5  |    |
| .    | NDX- | TXF | TX   | .   | 03   | B6-  | .   | *F22 | OP2- |    |

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|     |      |         |      |      |         |      |     |        |      |
|-----|------|---------|------|------|---------|------|-----|--------|------|
| 1SA | TX   | B5      | B1   | C7   | D4      | 06   | TP  | E6     | OE18 |
| 1SA | 1E18 | OTF     | C7   | .    | 14 *F26 | D4   | .   | 05 TRS | B6-  |
| 1SA | TLC  | B5      | .    | C7   | 06      | TP   | E2  | E6     | OE18 |
| 1SA | TX   | B5      | C7   | .    | 14 *F26 | E2   | .   | 05 TRS | B6-  |
| 1SA | 1E18 | OTF     | .    | B1   | C7      | OP3  | 06  | TP     | .    |
| 1SA | TLC  | B5      | B1   | 1E18 | OTF     | C7   | .   | 14 TLS | .    |
| 1SA | TX   | B6      | B4   | *F14 | PS-     | ND   | OP2 | TP     | 02   |
| E7  | BL4  | OE18    | 1SA  | B2   | C7      | C7   | 14  | TLS    | .    |
| T1  | TX   | B2-     | B3   | OTF  | C7      | ND   | OP1 | OP1    | 01   |
| 1SA | OE18 | B5      | 1E18 | B6-  | C7      | *F22 | .   | .      | 06   |
| TP  | TX   | B5      | TRS  | B1   | C7      | D5   | PS- | ND     | NDX- |
| TXF | TX   | B4      | B2   | E7   | C7      | OE18 | D3  | 1E18   | OP3  |
| 1SA | TX   | TP      | .    | NDX- | TXF     | TX   | 1SA | OTF    | OTF  |
| OP1 | 06   | 15      | PS-  | 01   | .       | .    | 02  | T1     | B64- |
| C7  | .    | 11 *F20 | .    | .    | .       | .    | .   | .      | .    |
| B6  | .    | .       | .    | .    | .       | .    | .   | .      | .    |

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|      |      |      |     |      |     |      |     |      |     |
|------|------|------|-----|------|-----|------|-----|------|-----|
| 1SA  | IX   | B6   | B5  | B3   | C7  | D8   | D5  | 06   | TP  |
| OE18 | 1SA  | 1E18 | OTF | C7   | C7  | TLC  | .   | BL1  | B2  |
| 1SA  | TX   | B4   | B2  | B1   | C7  | D8   | D6  | D5   | D3  |
| ND   | OP3  | OP1  | 06  | TP   | .   | E7   | TXF | OE18 | 1SA |
| 1E18 | OTF  | C7   | .   | BL3  | PS- | NDX- | .   | TX   | .   |
| T1   | B64- | B6-  | C7  | *F20 | 06  | TP   | .   | .    | E7  |
| 1SA  | TX   | B1   | C7  | OP3  | .   | .    | .   | .    | .   |
| .    | PS   | .    | .   | .    | .   | E    | L   | A    | Y   |
| T    | I    | M    | E   | .    | D   | E    | L   | A    | Y   |
| T    | I    | M    | E   | .    | D   | E    | L   | A    | Y   |
| OE18 | 1SA  | 1E18 | OTF | C7   | .   | *F32 | .   | TRC  | .   |
| B6-  | TX   | TLS  | B5- | B1   | C7  | D4   | OP3 | 06   | TP  |
| 1SA  | E6   | B6   | B4  | .    | C7  | .    | .   | .    | Y   |
| E2   | I    | M    | E   | .    | D   | E    | L   | A    | BL4 |
| T    | I    | M    | E   | .    | .   | TLC  | .   | T1   | .   |
| OE18 | 1SA  | 1E18 | OTF | C7   | .   | .    | .   | .    | .   |
| B2-  | .    | *F14 | PS- | .    | .   | .    | .   | .    | .   |

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|      |     |      |     |    |    |     |    |      |     |
|------|-----|------|-----|----|----|-----|----|------|-----|
| 1SA  | TX  | B3   | B2  | B1 | C7 | D6  | D5 | D3   | ND  |
| 06   | TP  | E2   | E6  | .  | C7 | .   | .  | .    | .   |
| T    | I   | M    | E   | .  | D  | E   | L  | A    | Y   |
| OE18 | 1SA | 1E18 | OTF | C7 | .  | BL6 | .  | NDX- | TXF |
| TX   | B1  | TRC  | B6- | K  | ND | 05  | 04 | 03   | 02  |
| 1SA  | .   | C7   | E   | .  | .  | .   | .  | .    | .   |
| E6   | .   | .    | E   | .  | .  | E   | L  | A    | Y   |
| T    | I   | M    | E   | .  | .  | E   | L  | A    | Y   |
| T    | I   | M    | E   | .  | .  | E   | L  | A    | Y   |
| OE18 | 1SA | 1E18 | OTF | C7 | .  | OX  | .  | NDX- | TXF |
| B2-  | .   | .    | .   | .  | .  | .   | .  | .    | .   |

Tape Marker  
stops number

|    |     |  |     |     |      |      |      |      |      |      |      |
|----|-----|--|-----|-----|------|------|------|------|------|------|------|
| CH | 132 | C7 or test, zero side. Logic for zero side C7 is on boards 207, 208. |     |     |      |      |      |      |      |      |      |
|    |     | OSA  | TX  | C7  | OE18 | OSA  | 1E18 | OTF  | C7   | 01   | 01   |
|    |     | 1SA  | B2  | CR7 | ND   | OE18 | OSA  | 1E18 | OTF  | C7   | 01   |
|    |     | OSA  | C7  | E   | K    | 05   | 04   | 03   | 02   | OE18 | OSA  |
|    |     | 1E18   | OTF | C7  | 02   | TP   | OE18 | OSA  | 1E18 | OTF  | C7   |
|    |     | 1SA  | TX  | C5  | 06   | 06   | 06   | 06   | 06   | 06   | 06   |
|    |     | .  | 02  | .   | .    | .    | .    | .    | .    | .    | .    |
|    |     | C7 and test, zero side.  |     |     |      |      |      |      |      |      |      |
|    | 133 | 1SA  | B2  | C5  | ND   | 06   | TP   | OE18 | OSA  | 1E18 | 1TF  |
|    |     | C7   | .   | 01  | K    | 02   | TX-  | 03   | 02   | OE18 | OSA  |
|    |     | 1SA  | CR7 | E   | 01   | NDX- | 04   | 03   | 02   | OE18 | OSA  |
|    |     | 1E18   | 1TF | C7  | K    | 05   | 04   | 03   | 02   | OE18 | OSA  |
|    |     | 1SA  | C5  | E   | 02   | 05   | 04   | 03   | 02   | OE18 | OSA  |
|    |     | 1E18   | 1TF | C7  | 02   | 06   | 06   | TP   | OE18 | OSA  | 1E18 |
|    |     | 1SA  | TX  | B2  | CR7  | ND   | 06   | TP   | OE18 | OSA  | 1E18 |
|    |     | 1TF  | C7  | .   | 02   | C5-  | 01   | NDX- | TX   | .    | .    |

1. Depress battery D button.
2. Start the tape reader.

|    |     |   |      |      |      |      |      |      |      |      |     |
|----|-----|---|------|------|------|------|------|------|------|------|-----|
| CH | 135 | C3 and test, one side. Logic for one side C3 is on boards 226, 227, 228, 401, 402, 403, 404, 405. Logic for matrix 009. |      |      |      |      |      |      |      |      |     |
|    |     | 1SA   | TX   | B6   | B5   | B3   | B2   | B1   | C3   | D7   | D5  |
|    |     | D4  | D3   | ND   | 06   | TP   | E2   | OE18 | 1SA  | 1E18 | OTF |
|    |     | C3  | .    | 02   | E4-  | .    | 01   | NDX- | TX   | .    | 03  |
|    |     | F3  | .    | .    | B6   | B5   | B3   | B2   | B1   | C3   | D7  |
|    |     | 1SA   | T0   | TX   | ND   | 06   | TP   | E2   | OE18 | 1SA  | 03  |
|    |     | D5  | D4   | D3   | ND   | 06   | TP   | E2   | OE18 | 1SA  | 03  |
|    |     | 1E18  | OTF  | C3   | .    | 02   | TOA  | 01   | NDX- | TX   | .   |
|    |     | *F3   | F3   | .    | TX   | 06   | TP   | B6   | B5   | B2   | B1  |
|    |     | 1SA   | C3   | T0   | OTF  | C3   | B3   | OTF  | C3   | OP2  | 06  |
|    |     | OE18  | 1SA  | 1E18 | B6   | B5   | 1E18 | BL3  | B5   | B6   | F5  |
|    |     | 1SA   | T0   | TX   | OE18 | 05   | BL3  | B5   | 05   | 04   | 04  |
|    |     | TP  | PS   | OE18 | 1SA  | B6   | C3   | 03   | 06   | 04   | 04  |
|    |     | .   | 03   | BL0  | B2-  | 06   | TP   | B6   | TP   | BL2  | 06  |
|    |     | 1SA   | T0   | TX   | OTF  | B6   | TP   | B6   | TP   | BL2  | 06  |
|    |     | 1SA   | 1E18 | OTF  | B6   | C3   | 03   | 06   | 04   | 04   | 04  |
|    |     | .   | 14   | TLS  | B6   | .    | .    | .    | .    | .    | .   |
|    |     | 1SA   | T0   | TX   | 1SA  | B6   | B4   | B3   | C3   | ND   | 06  |
|    |     | TP  | OE18 | TXF  | TX   | 1E18 | OTF  | C3   | 07   | F11  | 01  |
|    |     | NDX-  | TX   | TX   | TX   | B6   | C3   | 06   | TP   | OE18 | 1SA |
|    |     | 1SA   | T0   | TX   | TX   | B6   | C3   | 06   | TP   | OE18 | 1SA |
|    |     | 1E18  | OTF  | C3   | C3   | .    | 08   | *F13 | F13  | 17   | TLC |



Tape stops  
Marker number

|     |           |            |            |            |            |            |            |            |            |            |            |
|-----|-----------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|
| 139 | ISA<br>TP | T0<br>E1   | TX<br>PS   | B4<br>OE18 | B1<br>ISA  | C3<br>1E18 | OP3<br>OTF | OP2<br>C3  | OP1<br>.   | 11<br>*F19 | 06<br>*F19 |
|     | OP1       | .          | 17<br>BL7  | B1         | B1         | C3         | OP3        | OP2<br>C3  | 06<br>TP   | .          | 17         |
|     | ISA<br>E1 | T0<br>OE18 | TX<br>ISA  | B4<br>1E18 | OTF        | C3         | .          | 11<br>*F19 | PS-        | .          | 04         |
|     | BL7       | B1         | .          | .          | B5         | B1         | C3         | OP3        | OP2        | 06         | .          |
|     | ISA       | T0         | TX         | B6         | 1E18       | OTF        | C3         | .          | 11<br>TOP  | .          | .          |
|     | TP        | PS         | OE18       | ISA        | B2-        | B2         | C3         | .          | D4         | ND         | .          |
|     | BL2       | B3-        | TX         | BL4        | B3         | PS         | OE18       | 7          | 1E18       | OTF        | .          |
|     | ISA       | T0         | 06         | B4         | E2         | TXF        | TX         | ISA        | TRC        | B6-        | .          |
|     | OP3       | OP2        | 06         | TP         | 01<br>NDX- | B2         | C3         | .          | 07<br>ND   | 06         | .          |
|     | C3        | T0         | 11<br>BL6  | B5         | B3         | OTF        | B6-        | .          | 12<br>*F21 | OP3-       | .          |
|     | ISA       | PS         | TX         | ISA        | 1E18       | OTF        | .          | 15<br>BL4  | 06         | B3         | .          |
|     | TP        | 01<br>NDX- | TXF        | TX         | .          | 03<br>TRS  | .          | .          | 12<br>BL4  | .          | .          |
| 140 | ISA       | T0         | TX         | B5         | B3         | B2         | B1         | C3         | ND         | OP3        | .          |
|     | OP2       | 06         | TP         | PS         | OE18       | ISA        | 1E18       | OTF        | C3         | .          | 12         |
|     | *F21      | OP2        | .          | 01<br>NDX- | TXF        | TX         | .          | 03<br>TR5  | B6-        | .          | 15         |
|     | BL4       | B3         | TX         | B5         | B3         | B2         | B1         | C3         | ND         | OP3        | .          |
|     | ISA       | T0         | TP         | PS         | OE18       | ISA        | 1E18       | OTF        | C3         | .          | 12         |
|     | OP1       | 06         | TP         | 01<br>NDX- | TXF        | TX         | .          | 03<br>TRS  | B6-        | .          | 15         |
|     | *F21      | OP1        | .          | .          | B3         | B2         | B1         | C3         | ND         | OP3        | .          |
|     | BL4       | B3         | TX         | B5         | B3         | B2         | B1         | C3         | ND         | OP3        | .          |
|     | ISA       | T0         | TP         | ISA        | 1E18       | OTF        | C3         | .          | 12<br>*F21 | PS-        | .          |
|     | OP6       | TP         | OE18       | TX         | B3         | TRS        | B6-        | .          | 15<br>BL4  | B3         | .          |
|     | .         | 01<br>NDX- | TXF        | B6         | B5         | B3         | B2         | B1         | C3         | ND         | .          |
|     | ISA       | T0         | TP         | PS         | OE18       | ISA        | 1E18       | OTF        | C3         | .          | 12         |
|     | OP3       | 06         | TP         | TXF        | TX         | .          | 03<br>*F3  | F3         | .          | .          | .          |
|     | TLS       | .          | 01<br>NDX- | .          | .          | .          | .          | .          | .          | .          | .          |
| 141 | ISA       | T0         | TX         | B5         | B2         | B1         | C3         | D5         | D3         | ND         | .          |
|     | OP3       | 06         | TP         | E2         | PS         | OE18       | ISA        | 1E18       | OTF        | C3         | .          |
|     | .         | 12<br>BL0  | .          | 01<br>NDX- | TXF        | TX         | .          | 06<br>TRS  | B6-        | .          | .          |
|     | ISA       | T0         | TX         | B5         | B3         | B1         | C3         | OP3        | OP2        | 06         | .          |
|     | TP        | PS         | OE18       | ISA        | 1E18       | OTF        | C3         | .          | 13<br>*F23 | OP3        | .          |
|     | BL7       | B1         | B6-        | B5         | BL3        | B1         | C3         | 06         | TP         | PS         | .          |
|     | ISA       | TR5        | TX         | OTF        | B3         | B1         | 13<br>*F23 | OP2        | .          | 04<br>TRS  | .          |
|     | OE18      | T0         | 1E18       | B1         | C3         | .          | .          | .          | .          | .          | .          |
|     | B6-       | ISA        | BL3        | B5         | B3         | B1         | C3         | OP2        | OP1        | 06         | .          |
|     | ISA       | T0         | TX         | B5         | 1E18       | OTF        | C3         | .          | 13<br>*F23 | OP1        | .          |
|     | TP        | PS         | OE18       | ISA        | BL3        | B1         | C3         | .          | 06         | TP         | .          |
|     | .         | 04         | B6-        | B5         | B3         | B1         | 13<br>*F23 | OP2        | .          | 04<br>TRS  | .          |
|     | ISA       | TR5        | TX         | OTF        | 1E18       | OTF        | C3         | PS-        | .          | .          | .          |
|     | OE18      | T0         | 1E18       | B5         | B3         | B1         | C3         | .          | .          | .          | .          |
|     | B6-       | ISA        | BL3        | B5         | C3         | .          | .          | .          | .          | .          | .          |

|     |     |      |      |      |      |     |    |      |      |     |      |      |    |
|-----|-----|------|------|------|------|-----|----|------|------|-----|------|------|----|
| 142 | ISA | T0   | TX   | B6   | B5   | B3  | 05 | B1   | C3   | 13  | OP2  | 06   | 03 |
|     | TP  | PS   | OE18 | ISA  | 1E18 | OTF |    | C3   | .    |     | TLS  | .    |    |
|     | BL0 | B2-  | .    | *F5  | F5   | .   |    | BL3  | B1   |     | D5   | D3   |    |
|     | ISA | T0   | TX   | B5   | B3   | B2  |    | B1   | C3   |     |      |      |    |
|     | ND  | OP2  | 06   | TP   | E2   | PS  |    | OE18 | ISA  |     | 1E18 | OTF  |    |
|     | C3  | .    | 13   | BL2  | 01   | TXF |    | TX   | OP2  | 03  | TRS  | B6-  |    |
|     | ISA | T0   | TX   | B5   | B3   | C3  |    | D3   | 14   |     | 06   | TP   |    |
|     | PS  | OE18 | ISA  | 1E18 | OTF  | C3  |    | .    | *F25 |     | D3   | .    | 05 |
|     | TRS | B6-  | .    | BL2  | B1-  | .   |    | OP2  | 06   |     | TP   | E2   |    |
|     | ISA | T0   | TX   | B5   | B3   | C3  |    | .    | *F25 |     | E2   | .    | 05 |
|     | PS  | OE18 | ISA  | 1E18 | OTF  | C3  |    | .    | 14   |     |      | .    |    |
|     | TRS | B6-  | .    | BL2  | B1-  | B3  |    | C3   | 06   |     | TP   | OE18 | 05 |
|     | ISA | T0   | TX   | B6   | B5   | 14  |    | .    | 04   | BL2 | B1-  | .    |    |
|     | ISA | 1E18 | OTF  | C3   | .    | TLS |    | C3   | .    |     |      | .    |    |
|     | *F7 | F7   | .    | .    | .    | .   |    | .    | .    |     |      | .    |    |

[illegible]

|     |      |      |      |      |      |      |     |      |     |      |     |
|-----|------|------|------|------|------|------|-----|------|-----|------|-----|
| 144 | 1SA  | T0   | TX   | B6   | B5   | B3   | B2  | C3   | D4  | ND   | 01  |
|     | 06   | TP   | OE18 | 1SA  | 1E18 | OTF  | C3  | C3   | TLC | .    |     |
|     | NDX- | TXF  | TX   | B2   | B1   | C3   | D4  | ND   | 06  | TP   |     |
|     | 1SA  | T0   | TX   | OTF  | C3   | .    | 16  | 01   | TXF |      |     |
|     | OE18 | 1SA  | 1E18 | B5-  | C3   | .    | BL1 | NDX- |     |      |     |
|     | TX   | .    | 15   | B4   | C3   | OP3  | 17  | TP   | .   | PS   |     |
|     | 1SA  | T0   | TX   | OTF  | C3   | .    | *SU | 06   | 08  | TRC  |     |
|     | OE18 | 1SA  | 1E18 | B1   | C3   | C3   | .   | E1   | .   | OE18 |     |
|     | B6-  | .    | 11   | B6   | B5   | C3   | 06  | E1   | .   | 0E18 |     |
|     | 1SA  | T0   | TX   | C3   | B5   | 17   | 06  | TP   | .   | 0E18 |     |
|     | 1SA  | 1E18 | OTF  | C3   | B2   | TLC  | D7  | 05   | B3- | .    |     |
|     | 1SA  | T0   | TX   | B3   | B2   | C3   | OTF | D4   | ND  | 06   |     |
|     | TP   | E1   | E2   | OE18 | 1SA  | 1E18 | 17  | C3   | .   | 17   | BL7 |
|     | .    | NDX- | TXF  | TX   | .    | TRC  | 07  | C3   | .   | .    | .   |
|     |      | 01   |      |      |      |      |     |      |     |      |     |



## Tape stops Marker number

|    |     |  |   |  |   |  |                                     |                               |                                 |                                |                                |          |
|----|-----|--|---|--|---|--|-------------------------------------|-------------------------------|---------------------------------|--------------------------------|--------------------------------|----------|
| CH | 145 | ISA<br>E1<br>TXF   | T0<br>OE18<br>B2-                                 | C3<br>ISA                              | E<br>1E18   | K<br>OTF                                 | ND<br>C3                            | 05<br>.                       | 04<br>17 OX                     | 03<br>.                        | 01<br>NDX-                     | 02<br>.  |
|    | 146 | C3 or test, zero side. Logic for zero side C3 is on board 227. |   |  |   |  |                                     |                               |                                 |                                |                                |          |
|    |     | OSA<br>1SA<br>OSA<br>OSA<br>1SA                                | TX<br>B2<br>C5<br>1E18<br>TX                      | C3<br>C3<br>CR3<br>C3<br>OTF<br>06     | OE18<br>ND<br>E<br>C3<br>TP                       | OSA<br>OE18<br>K<br>02<br>OE18           | 1E18<br>OSA<br>05<br>02<br>OSA      | OTF<br>1E18<br>04<br>1E18     | C3<br>OTF<br>03                 | C3<br>02<br>C3                 | 01<br>OE18<br>.                | 01<br>02 |
| CH | 147 | C3 and test, zero side.  |   |  |   |  |                                     |                               |                                 |                                |                                |          |
|    |     | 1SA<br>.   | B2<br>CR3-<br>CR3<br>1E18<br>E<br>C3<br>TX<br>TTF | ND<br>C5<br>TTF<br>K<br>C3<br>B2<br>C3 | 06<br>02 OX<br>E<br>C3<br>05<br>02 OX<br>CR3<br>. | TP<br>TX<br>K<br>01<br>04<br>C5<br>02 C5 | OE18<br>05<br>NDX-<br>03<br>ND<br>. | OSA<br>04<br>02<br>06<br>NDX- | 1E18<br>03<br>OE18<br>TP<br>TXF | 1TF<br>02<br>OSA<br>OE18<br>TX | C3<br>OE18<br>1E18<br>OSA<br>. |          |

## NIXIE INDICATOR TESTS

The following group of tests causes each cathode of each nixie tube to be lighted at some time. There are 18 nixie tubes, and each has an associated neon tube. The neon tube with the sign nixie is never supposed to light. Every time the tape reader stops on a CH command, this listing will show how the nixie readout should look.

1. Depress battery A button.
2. Start the tape reader.

CH 148 Logic for nixie tests is on boards 406, 407, 408, 409, 023.  
OSA DSP D6 D5 D2 DA5

0000 0000 321

Start the tape reader.

CH 149 OSA DSP X1 D6 D5 D2 DA5

0000 0000 3210

Start the tape reader.

|    |     |                      |                      |                      |                      |                      |                      |                      |   |   |   |
|----|-----|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|---|---|---|
| CH | 150 | OSA                  | DSP                  | X2                   | D6                   | D5                   | D2                   | DA5                  | . | . | . |
|    |     | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> |   |   |   |
|    |     | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> |   |   |   |

Start the tape reader.

|    |     |                      |                      |                      |                      |                      |                      |                      |   |   |   |
|----|-----|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|---|---|---|
| CH | 151 | OSA                  | X1                   | X2                   | DSP                  | D6                   | D5                   | DA5                  | . | . | . |
|    |     | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> |   |   |   |
|    |     | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> |   |   |   |

1. Depress battery B button.
2. Start the tape reader.

|    |     |                      |                      |                      |                      |                      |                      |                      |   |   |   |
|----|-----|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|---|---|---|
| CH | 152 | OSA                  | DSP                  | D7                   | D2                   | D1                   | DA6                  | DA1                  | . | . | . |
|    |     | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> |   |   |   |
|    |     | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> |   |   |   |

Start the tape reader.

|    |     |                      |                      |                      |                      |                      |                      |                      |                      |   |   |
|----|-----|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|---|---|
| CH | 153 | OSA                  | DSP                  | D7                   | D2                   | D1                   | DA6                  | DA1                  | X1                   | . | . |
|    |     | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> |   |   |
|    |     | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> |   |   |

Start the tape reader.

|    |     |                      |                      |                      |                      |                      |                      |                      |                      |   |   |
|----|-----|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|---|---|
| CH | 154 | OSA                  | DSP                  | D7                   | D2                   | D1                   | DA6                  | DA1                  | X2                   | . | . |
|    |     | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> |   |   |
|    |     | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> |   |   |

Start the tape reader.

|    |     |                      |                      |                      |                      |                      |                      |                      |                      |                      |   |
|----|-----|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|---|
| CH | 155 | OSA                  | DSP                  | D7                   | D2                   | D1                   | DA6                  | DA1                  | X2                   | X1                   | . |
|    |     | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> |   |
|    |     | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> |   |

1. Depress battery C button.
2. Start the tape reader.

|    |     |                      |                      |                      |                      |                      |                      |                      |                      |                      |   |
|----|-----|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|---|
| CH | 156 | OSA                  | DSP                  | D7                   | D5                   | D3                   | DA6                  | DA5                  | DA2                  | .                    | . |
|    |     | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> |   |
|    |     | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> |   |

3-57

Tape stops Marker number

Start the tape reader.

|    |     |     |     |    |     |     |     |     |     |    |   |
|----|-----|-----|-----|----|-----|-----|-----|-----|-----|----|---|
| CH | 157 | OSA | DSP | D7 | D5  | D3  | DA6 | DA5 | DA2 | X1 | . |
|    |     | □□□ | □□□ | □  | 5 4 | 3 2 |     |     |     |    |   |

Start the tape reader.

|    |     |     |     |    |       |    |     |     |     |    |   |
|----|-----|-----|-----|----|-------|----|-----|-----|-----|----|---|
| CH | 158 | OSA | DSP | D7 | D5    | D3 | DA6 | DA5 | DA2 | X2 | . |
|    |     | □□□ | □   | 5  | 4 3 2 |    |     |     |     |    |   |

Start the tape reader.

|    |     |     |         |    |    |    |     |     |     |    |    |
|----|-----|-----|---------|----|----|----|-----|-----|-----|----|----|
| CH | 159 | OSA | DSP     | D7 | D5 | D3 | DA6 | DA5 | DA2 | X2 | X1 |
|    |     | □□□ | 5 4 3 2 | □  |    |    |     |     |     |    |    |

1. Depress battery D button.
2. Start the tape reader.

|    |     |     |     |    |    |       |    |     |     |     |   |
|----|-----|-----|-----|----|----|-------|----|-----|-----|-----|---|
| CH | 160 | OSA | DSP | D7 | D6 | D3    | D1 | DA7 | DA2 | DA1 | . |
|    |     | □□□ | 3   | □  |    | 6 5 4 |    |     |     |     |   |

Start the tape reader.

|    |     |     |     |     |     |    |    |     |     |     |    |
|----|-----|-----|-----|-----|-----|----|----|-----|-----|-----|----|
| CH | 161 | OSA | DSP | D7  | D6  | D3 | D1 | DA7 | DA2 | DA1 | X1 |
|    |     | □□□ | □   | 6 5 | 4 3 |    |    |     |     |     |    |

Start the tape reader.

|    |     |     |     |       |    |    |    |     |     |     |    |
|----|-----|-----|-----|-------|----|----|----|-----|-----|-----|----|
| CH | 162 | OSA | DSP | D7    | D6 | D3 | D1 | DA7 | DA2 | DA1 | X2 |
|    |     | □□□ | 6   | 5 4 3 |    |    |    |     |     |     |    |

Start the tape reader.

|    |     |     |     |         |    |    |    |     |     |     |    |
|----|-----|-----|-----|---------|----|----|----|-----|-----|-----|----|
| CH | 163 | OSA | DSP | D7      | D6 | D3 | D1 | DA7 | DA2 | DA1 | X2 |
|    |     | X1  | □□□ | 6 5 4 3 | □  |    |    |     |     |     |    |

1. Depress battery E button.
2. Start the tape reader.



|    |     |     |     |     |     |       |     |     |     |     |     |
|----|-----|-----|-----|-----|-----|-------|-----|-----|-----|-----|-----|
| CH | 164 | OSA | DSP | D7  | D6  | D5    | D3  | D2  | DA7 | DA5 | DA3 |
|    |     | □□□ | □□□ | □□□ | □□□ | □□□   | □□□ | □□□ | □□□ | □□□ | □□□ |
|    |     | 4   |     |     |     | 7 6 5 |     |     |     |     |     |

Start the tape reader.

|    |     |     |     |     |     |     |     |     |     |     |     |
|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| CH | 165 | OSA | DSP | D7  | D6  | D5  | D3  | D2  | DA7 | DA5 | DA3 |
|    |     | X1  | □□□ | □□□ | □□□ | □□□ | □□□ | □□□ | □□□ | □□□ | □□□ |
|    |     |     |     |     |     | 7 6 |     |     |     |     |     |
|    |     |     |     |     |     | 5 4 |     |     |     |     |     |

Start the tape reader.

|    |     |     |     |     |     |       |     |     |     |     |     |
|----|-----|-----|-----|-----|-----|-------|-----|-----|-----|-----|-----|
| CH | 166 | OSA | DSP | D7  | D6  | D5    | D3  | D2  | DA7 | DA5 | DA3 |
|    |     | X2  | □□□ | □□□ | □□□ | □□□   | □□□ | □□□ | □□□ | □□□ | □□□ |
|    |     |     |     |     |     | 7     |     |     |     |     |     |
|    |     |     |     |     |     | 6 5 4 |     |     |     |     |     |

Start the tape reader.

|    |     |     |     |     |     |         |     |     |     |     |     |
|----|-----|-----|-----|-----|-----|---------|-----|-----|-----|-----|-----|
| CH | 167 | OSA | DSP | D7  | D6  | D5      | D3  | D2  | DA7 | DA5 | DA3 |
|    |     | X2  | □□□ | □□□ | □□□ | □□□     | □□□ | □□□ | □□□ | □□□ | □□□ |
|    |     |     |     |     |     | 7 6 5 4 |     |     |     |     |     |

Start the tape reader.

|    |     |     |     |     |     |       |     |     |     |     |     |
|----|-----|-----|-----|-----|-----|-------|-----|-----|-----|-----|-----|
| CH | 168 | OSA | D8  | D3  | D2  | D1    | DA7 | DA6 | DA3 | DA1 | DSP |
|    |     | □□□ | □□□ | □□□ | □□□ | □□□   | □□□ | □□□ | □□□ | □□□ | □□□ |
|    |     |     |     |     |     | 8 7 6 |     |     |     |     |     |

Start the tape reader.

|    |     |     |     |     |     |     |     |     |     |     |     |
|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| CH | 169 | OSA | DSP | D8  | D3  | D2  | D1  | DA7 | DA6 | DA3 | DA1 |
|    |     | X1  | □□□ | □□□ | □□□ | □□□ | □□□ | □□□ | □□□ | □□□ | □□□ |
|    |     |     |     |     |     | 8 7 |     |     |     |     |     |
|    |     |     |     |     |     | 6 5 |     |     |     |     |     |

Start the tape reader.

|    |     |     |     |     |     |       |     |     |     |     |     |
|----|-----|-----|-----|-----|-----|-------|-----|-----|-----|-----|-----|
| CH | 170 | OSA | DSP | D8  | D3  | D2    | D1  | DA7 | DA6 | DA3 | DA1 |
|    |     | X2  | □□□ | □□□ | □□□ | □□□   | □□□ | □□□ | □□□ | □□□ | □□□ |
|    |     |     |     |     |     | 8     |     |     |     |     |     |
|    |     |     |     |     |     | 7 6 5 |     |     |     |     |     |

**Start the tape reader.**

|                |                |    |    |    |    |     |     |     |     |
|----------------|----------------|----|----|----|----|-----|-----|-----|-----|
| OSA            | DSP            | D8 | D3 | D2 | D1 | DA7 | DA6 | DA3 | DA1 |
| x <sub>2</sub> | x <sub>1</sub> | .  | .  | .  | .  | .   | .   | .   | .   |

**Start the tape reader.**

| OSA  | D8 | D5 | D4    | DA7 | DA6 | DA5 | DA3 | DA2 | DSP |
|------|----|----|-------|-----|-----|-----|-----|-----|-----|
| 0000 | 6  |    | 9 8 7 |     |     |     |     |     |     |

**Start the tape reader.**

| TSA<br>DA1 | DSH<br>X2 | PS<br>XD | D7  | D6 | D3 | D2 | D1 | DA8 | DA4 |
|------------|-----------|----------|-----|----|----|----|----|-----|-----|
|            |           |          | 7 6 |    |    |    |    |     |     |
|            |           | 9 8      |     |    |    |    |    |     |     |

**Start the tape reader.**

| TSA<br>DA1 | DSH<br>X1 | PS<br>XD | D7 | D6 | D3 | D2 | D1 | DA8 | DA4 |
|------------|-----------|----------|----|----|----|----|----|-----|-----|
| 9          | 8 7 6     |          |    |    |    |    |    |     |     |

**Start the tape reader.**

|   | 1SA | DSH | PS | D7 | D6 | D3 | D2 | D1 | DA8 | DA4 |
|---|-----|-----|----|----|----|----|----|----|-----|-----|
|   | DA1 | XD  |    |    |    |    |    |    |     |     |
| E | 9   | 8   | 7  | 6  |    |    |    |    |     | .   |

**Start the tape reader.**

[illegible]

Start the tape reader.

|    |     |            |            |          |    |     |    |    |    |     |     |
|----|-----|------------|------------|----------|----|-----|----|----|----|-----|-----|
| CH | 177 | ISA<br>DA5 | DSH<br>DA4 | PS<br>XD | X2 | D7  | D5 | D3 | D2 | DA7 | DA6 |
|    |     | □□□        | □□□        | □□□      | 9  | 8 7 |    |    |    |     |     |

Start the tape reader.

|    |     |            |            |          |       |    |    |    |    |     |     |
|----|-----|------------|------------|----------|-------|----|----|----|----|-----|-----|
| CH | 178 | ISA<br>DA5 | DSH<br>DA4 | PS<br>XD | X1    | D7 | D5 | D3 | D2 | DA7 | DA6 |
|    |     | □□□        | □□□        | □□□      | 9 8 7 |    |    |    |    |     |     |

Start the tape reader.

|    |     |            |           |    |    |    |    |    |     |     |     |
|----|-----|------------|-----------|----|----|----|----|----|-----|-----|-----|
| CH | 179 | ISA<br>DA4 | DSH<br>XD | PS | D7 | D5 | D3 | D2 | DA7 | DA6 | DA5 |
|    |     | E□□        | 9 8 7     |    |    |    |    |    |     |     |     |

Start the tape reader.

|    |     |     |     |    |    |    |    |    |     |     |     |
|----|-----|-----|-----|----|----|----|----|----|-----|-----|-----|
| CH | 180 | OSA | DSP | D8 | D6 | D5 | D4 | D2 | DA8 | DA5 | DA4 |
|    |     | □□□ | 8   |    |    | 9  |    |    |     |     |     |

Start the tape reader.

|    |     |            |     |    |    |     |    |    |    |     |     |
|----|-----|------------|-----|----|----|-----|----|----|----|-----|-----|
| CH | 181 | OSA<br>DA4 | DSP | X1 | D8 | D6  | D5 | D4 | D2 | DA8 | DA5 |
|    |     | □□□        |     |    |    | 9 8 |    |    |    |     |     |

Start the tape reader.

|    |     |           |     |    |     |    |    |    |     |     |     |
|----|-----|-----------|-----|----|-----|----|----|----|-----|-----|-----|
| CH | 182 | OSA<br>X2 | DSP | D8 | D6  | D5 | D4 | D2 | DA8 | DA5 | DA4 |
|    |     | □□□       |     |    | 9 8 |    |    |    |     |     |     |

Start the tape reader.

|    |     |           |           |    |    |    |    |    |     |     |     |
|----|-----|-----------|-----------|----|----|----|----|----|-----|-----|-----|
| CH | 183 | OSA<br>X2 | DSP<br>X1 | D8 | D6 | D5 | D4 | D2 | DA8 | DA5 | DA4 |
|    |     | E□□       | 9 8       |    |    |    |    |    |     |     |     |



# Tape stops number

Start the tape reader.

|    |     |                      |                      |                      |                      |                      |    |    |     |     |     |
|----|-----|----------------------|----------------------|----------------------|----------------------|----------------------|----|----|-----|-----|-----|
| CH | 184 | OSA                  | DSP                  | D8                   | D7                   | D4                   | D2 | D1 | DA8 | DA6 | DA4 |
|    |     | DA1                  | .                    | .                    | .                    | .                    | .  | .  | .   | .   | .   |
|    |     | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> |    |    |     |     |     |
|    |     | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> |    |    |     |     |     |

Start the tape reader.

|    |     |                      |                      |                      |                      |                      |    |    |     |     |     |
|----|-----|----------------------|----------------------|----------------------|----------------------|----------------------|----|----|-----|-----|-----|
| CH | 185 | OSA                  | DSP                  | D8                   | D7                   | D4                   | D2 | D1 | DA8 | DA6 | DA4 |
|    |     | DA1                  | X1                   | .                    | .                    | .                    | .  | .  | .   | .   | .   |
|    |     | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> |    |    |     |     |     |
|    |     | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> |    |    |     |     |     |

Start the tape reader.

|    |     |                      |                      |                      |                      |                      |    |     |     |     |     |
|----|-----|----------------------|----------------------|----------------------|----------------------|----------------------|----|-----|-----|-----|-----|
| CH | 186 | ISA                  | DSH                  | PS                   | D6                   | D5                   | D3 | DA7 | DA5 | DA3 | DA2 |
|    |     | X1                   | XD                   | .                    | .                    | .                    | .  | .   | .   | .   | .   |
|    |     | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> |    |     |     |     |     |
|    |     | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> |    |     |     |     |     |

Start the tape reader.

|    |     |                      |                      |                      |                      |                      |    |     |     |     |     |
|----|-----|----------------------|----------------------|----------------------|----------------------|----------------------|----|-----|-----|-----|-----|
| CH | 187 | ISA                  | DSH                  | PS                   | D6                   | D5                   | D3 | DA7 | DA5 | DA3 | DA2 |
|    |     | XD                   | .                    | .                    | .                    | .                    | .  | .   | .   | .   | .   |
|    |     | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> |    |     |     |     |     |
|    |     | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> |    |     |     |     |     |

Start the tape reader.

|    |     |                      |                      |                      |                      |                      |    |    |    |     |     |
|----|-----|----------------------|----------------------|----------------------|----------------------|----------------------|----|----|----|-----|-----|
| CH | 188 | ISA                  | DSH                  | PS                   | X2                   | X1                   | D6 | D2 | D1 | DA7 | DA3 |
|    |     | DA1                  | XD                   | .                    | .                    | .                    | .  | .  | .  | .   | .   |
|    |     | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> |    |    |    |     |     |
|    |     | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> |    |    |    |     |     |

Start the tape reader.

|    |     |                      |                      |                      |                      |                      |    |     |     |     |    |
|----|-----|----------------------|----------------------|----------------------|----------------------|----------------------|----|-----|-----|-----|----|
| CH | 189 | ISA                  | DSH                  | PS                   | D6                   | D2                   | D1 | DA7 | DA3 | DA1 | X2 |
|    |     | XD                   | .                    | .                    | .                    | .                    | .  | .   | .   | .   | .  |
|    |     | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> |    |     |     |     |    |
|    |     | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> |    |     |     |     |    |

Start the tape reader.

|    |     |     |     |    |    |    |    |     |     |     |    |
|----|-----|-----|-----|----|----|----|----|-----|-----|-----|----|
| CH | 190 | 1SA | DSH | PS | D6 | D2 | D1 | DA7 | DA3 | DA1 | X1 |
|    |     | XD  | .   | .  | .  | .  | .  | .   | .   | .   | .  |

Start the tape reader.

|    |     |     |     |    |    |    |    |     |     |     |    |
|----|-----|-----|-----|----|----|----|----|-----|-----|-----|----|
| CH | 191 | 1SA | DSH | PS | D6 | D2 | D1 | DA7 | DA3 | DA1 | XD |
|    |     |     | .   | .  | .  | .  | .  | .   | .   | .   | .  |

Start the tape reader.

|    |     |     |     |    |    |    |    |    |     |     |     |
|----|-----|-----|-----|----|----|----|----|----|-----|-----|-----|
| CH | 192 | 1SA | DSH | PS | X2 | X1 | D5 | D2 | DA6 | DA5 | DA3 |
|    |     | XD  | .   | .  | .  | .  | .  | .  | .   | .   | .   |

Start the tape reader.

|    |     |     |     |    |    |    |    |     |     |     |    |
|----|-----|-----|-----|----|----|----|----|-----|-----|-----|----|
| CH | 193 | 1SA | DSH | PS | X2 | D5 | D2 | DA6 | DA5 | DA3 | XD |
|    |     |     | .   | .  | .  | .  | .  | .   | .   | .   | .  |

Start the tape reader.

|    |     |     |     |    |    |    |    |     |     |     |    |
|----|-----|-----|-----|----|----|----|----|-----|-----|-----|----|
| CH | 194 | 1SA | DSH | PS | X1 | D5 | D2 | DA6 | DA5 | DA3 | XD |
|    |     |     | .   | .  | .  | .  | .  | .   | .   | .   | .  |

Start the tape reader.

|    |     |     |     |    |    |    |     |     |     |    |   |
|----|-----|-----|-----|----|----|----|-----|-----|-----|----|---|
| CH | 195 | 1SA | DSH | PS | D5 | D2 | DA6 | DA5 | DA3 | XD | . |
|    |     |     | .   | .  | .  | .  | .   | .   | .   | .  | . |

Start the tape reader.

|    |     |     |     |    |    |    |    |     |     |     |    |
|----|-----|-----|-----|----|----|----|----|-----|-----|-----|----|
| CH | 196 | 1SA | DSH | PS | X2 | X1 | D1 | DA6 | DA2 | DA1 | XD |
|    |     |     | .   | .  | .  | .  | .  | .   | .   | .   | .  |

**Tape stops**      **Marker number**

Start the tape reader.

|    |     |                      |                      |                      |                      |                      |     |     |     |    |   |
|----|-----|----------------------|----------------------|----------------------|----------------------|----------------------|-----|-----|-----|----|---|
| CH | 197 | 1SA                  | DSH                  | PS                   | X2                   | D1                   | DA6 | DA2 | DA1 | XD | . |
|    |     | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> |     |     |     |    |   |

Start the tape reader.

|    |     |                      |                      |                      |                      |                      |     |     |     |    |   |
|----|-----|----------------------|----------------------|----------------------|----------------------|----------------------|-----|-----|-----|----|---|
| CH | 198 | 1SA                  | DSH                  | PS                   | X1                   | D1                   | DA6 | DA2 | DA1 | XD | . |
|    |     | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> |     |     |     |    |   |

Start the tape reader.

|    |     |                      |                      |                      |                      |                      |     |     |    |   |   |
|----|-----|----------------------|----------------------|----------------------|----------------------|----------------------|-----|-----|----|---|---|
| CH | 199 | 1SA                  | DSH                  | PS                   | D1                   | DA6                  | DA2 | DA1 | XD | . | . |
|    |     | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> |     |     |    |   |   |

Start the tape reader.

|    |     |                      |                      |                      |                      |                      |                      |     |     |     |     |
|----|-----|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|-----|-----|-----|-----|
| CH | 200 | OSA                  | DSP                  | D4                   | D3                   | D2                   | D1                   | DA8 | DA7 | DA6 | DA4 |
|    |     | DA3                  | DA1                  | .                    | .                    | .                    | .                    | .   | .   | .   | .   |
|    |     | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> |     |     |     |     |

Start the tape reader.

|    |     |                      |                      |                      |                      |                      |    |    |    |     |     |
|----|-----|----------------------|----------------------|----------------------|----------------------|----------------------|----|----|----|-----|-----|
| CH | 201 | 1SA                  | DSH                  | PS                   | X2                   | D8                   | D7 | D6 | D5 | DA5 | DA2 |
|    |     | XD                   | .                    | .                    | .                    | .                    | .  | .  | .  | .   | .   |
|    |     | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> |    |    |    |     |     |

Start the tape reader.

|    |     |                      |                      |                      |                      |                      |    |    |    |     |     |
|----|-----|----------------------|----------------------|----------------------|----------------------|----------------------|----|----|----|-----|-----|
| CH | 202 | 1SA                  | DSH                  | PS                   | X1                   | D8                   | D7 | D6 | D5 | DA5 | DA2 |
|    |     | XD                   | .                    | .                    | .                    | .                    | .  | .  | .  | .   | .   |
|    |     | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> |    |    |    |     |     |

Start the tape reader.

|    |     |                      |                      |                      |                      |                      |    |    |     |     |    |
|----|-----|----------------------|----------------------|----------------------|----------------------|----------------------|----|----|-----|-----|----|
| CH | 203 | 1SA                  | DSH                  | PS                   | D8                   | D7                   | D6 | D5 | DA5 | DA2 | XD |
|    |     | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> |    |    |     |     |    |



Start the tape reader.

|    |     |     |     |     |     |     |     |     |     |     |     |
|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| CH | 204 | OSA | DSP | D5  | DA8 | DA7 | DA6 | DA5 | DA4 | DA3 | DA2 |
|    |     | 000 | 000 | 000 | 000 | 10  |     |     |     |     |     |

Start the tape reader.

|    |     |     |     |     |    |     |     |     |     |     |     |
|----|-----|-----|-----|-----|----|-----|-----|-----|-----|-----|-----|
| CH | 205 | OSA | DSP | X1  | D5 | DA8 | DA7 | DA6 | DA5 | DA4 | DA3 |
|    |     | DA2 | .   | .   | .  | .   | .   | .   | .   | .   | .   |
|    |     | 000 | 000 | 000 | 10 | 000 |     |     |     |     |     |

Start the tape reader.

|    |     |     |     |    |     |     |     |     |     |     |     |
|----|-----|-----|-----|----|-----|-----|-----|-----|-----|-----|-----|
| CH | 206 | OSA | DSP | X2 | D5  | DA8 | DA7 | DA6 | DA5 | DA4 | DA3 |
|    |     | DA2 | .   | .  | .   | .   | .   | .   | .   | .   | .   |
|    |     | 000 | 000 | 10 | 000 | 000 |     |     |     |     |     |

Start the tape reader.

|    |     |      |     |     |     |     |    |    |    |    |    |
|----|-----|------|-----|-----|-----|-----|----|----|----|----|----|
| CH | 207 | ISA  | DSH | PS  | D8  | D7  | D6 | D4 | D3 | D2 | D1 |
|    |     | DA1  | XD  | .   | .   | .   | .  | .  | .  | .  | .  |
|    |     | E000 | 10  | 000 | 000 | 000 |    |    |    |    |    |

Start the tape reader.

|    |     |     |     |     |     |     |     |     |     |   |   |
|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|---|---|
| CH | 208 | OSA | DSP | D6  | D1  | DA4 | DA3 | DA2 | DA1 | . | . |
|    |     | 000 | 000 | 000 | 000 | 210 |     |     |     |   |   |

Start the tape reader.

|    |     |     |     |     |     |    |     |     |     |     |   |
|----|-----|-----|-----|-----|-----|----|-----|-----|-----|-----|---|
| CH | 209 | OSA | DSP | X1  | D6  | D1 | DA4 | DA3 | DA2 | DA1 | . |
|    |     | 000 | 000 | 000 | 210 | 0  |     |     |     |     |   |

Start the tape reader.

|    |     |     |     |     |     |     |     |     |     |     |   |
|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|---|
| CH | 210 | OSA | DSP | X2  | D6  | D1  | DA4 | DA3 | DA2 | DA1 | . |
|    |     | 000 | 000 | 210 | 000 | 000 |     |     |     |     |   |

# Tape stops Marker number

CH 211 OSA DSP X2 X1 D6 D1 DA4 DA3 DA2 DA1

2 1 0

Start the tape reader.

CH 212 OSA D7 D5 D3 DA6 DA5 DA2 . . .

1. Nothing should be lit in the nixie display.  
If the display reads:

2    5 4 3

The and diode from flip-flop DSP may be open or missing.

2. Start the tape reader.

CH 213 OSA DSP DSH D7 D5 D3 DA6 DA5 DA2 .

1. Nothing in the nixie display should be lit.  
If the display reads:

2    5 4 3

The diode from DSH- may be open.

2. Start the tape reader.

CH 214 OSA DSP PS D7 D5 D3 DA6 DA5 DA2 .

1. No part of the nixie display should be lit.  
If the display reads:

2    5 4 3

The diode from \*WI may be open.

2. The following tests check the setup buttons.
3. Depress the PROG TEST button.
4. Start the tape reader.

|    |     |  |                   |                |               |                 |                 |                |                |                 |                |               |
|----|-----|--|-------------------|----------------|---------------|-----------------|-----------------|----------------|----------------|-----------------|----------------|---------------|
| CH | 216 | Logic for set-up buttons is on boards 401, 402, 403, 001. Logic for button switch is to replace button switch. | OSA<br>OB2<br>OB6 | T0<br>OB5<br>. | D<br>OB6<br>. | E1<br>1E18<br>. | OB2<br>1TF<br>. | TS0<br>IC<br>. | OE18<br>D<br>. | BSC<br>OTF<br>. | IC<br>OB2<br>. | D<br>OB5<br>. |
|    |     | 1. Depress the SET UP button.<br>2. Start the tape reader.   |                   |                |               |                 |                 |                |                |                 |                |               |
| CH | 217 | Logic for set-up buttons is on boards 401, 402, 403, 002. Logic for button switch is to replace button switch. | OSA<br>OB2<br>OB6 | T0<br>OB5<br>. | D<br>OB6<br>. | E1<br>1E18<br>. | OB2<br>1TF<br>. | TS0<br>IC<br>. | OE18<br>D<br>. | BSC<br>OB2<br>. | IC<br>OB5<br>. | D<br>OTF<br>. |
|    |     | 1. Depress the SEND button.<br>2. Start the tape reader.   |                   |                |               |                 |                 |                |                |                 |                |               |
| CH | 218 | Logic for set-up buttons is on boards 401, 402, 403, 004. Logic for button switch is to replace button switch. | OSA<br>OB2<br>OB5 | T0<br>OB5<br>. | D<br>OB6<br>. | E1<br>1E18<br>. | OB2<br>1TF<br>. | TS0<br>IC<br>. | OE18<br>D<br>. | BSC<br>OB2<br>. | IC<br>OB6<br>. | D<br>OTF<br>. |
|    |     | 1. Depress the COMPUTE button.<br>2. Start the tape reader.  |                   |                |               |                 |                 |                |                |                 |                |               |
| CH | 219 | Logic for set-up buttons is on boards 401, 402, 403, 005. Logic for button switch is to replace button switch. | OSA<br>OB2<br>OB5 | T0<br>OB5<br>. | D<br>OB6<br>. | E1<br>1E18<br>. | OB2<br>1TF<br>. | TS0<br>IC<br>. | OE18<br>D<br>. | BSC<br>OB6<br>. | IC<br>OTF<br>. | D<br>OB2<br>. |
|    |     | 1. Depress the TRIG button.<br>2. Start the tape reader.   |                   |                |               |                 |                 |                |                |                 |                |               |
| CH | 220 | Logic for set-up buttons is on boards 401, 402, 403, 006. Logic for button switch is to replace button switch. | OSA<br>OB2<br>.   | T0<br>OB5<br>. | D<br>OB6<br>. | E1<br>1E18<br>. | OB2<br>1TF<br>. | TS0<br>IC<br>. | OE18<br>D<br>. | BSC<br>OB2<br>. | IC<br>OB5<br>. | D<br>OB6<br>. |
|    |     | 1. Depress the RECEIVE button.<br>2. Start the tape reader.  |                   |                |               |                 |                 |                |                |                 |                |               |



Tape  
stops  
Marker  
number

CH 221

Logic for set-up buttons is on boards 401, 402, 403, 007. Logic for button switch is to replace button switch.

|     |     |     |      |     |     |    |     |     |     |
|-----|-----|-----|------|-----|-----|----|-----|-----|-----|
| OSA | TO  | D   | E1   | OB2 | TSO | IC | BSC | IC  | D   |
| OB2 | OB5 | OB6 | 1E18 | 1TF |     |    | OB5 | OB6 | OTF |
| OB2 | .   | .   | .    | .   | .   | .  | .   | .   | .   |

1. Depress the SM key.
2. Start the tape reader.

CH 222

Logic for set-up buttons is on boards, 401, 402, 403, 021. Logic for button switch is to replace button switch.

|     |     |     |      |     |     |    |     |     |     |
|-----|-----|-----|------|-----|-----|----|-----|-----|-----|
| OSA | TO  | D   | E1   | OB2 | TSO | IC | BSC | IC  | D   |
| OB2 | OB5 | OB6 | 1E18 | 1TF |     |    | OB2 | OTF | OB5 |
| OB6 | .   | .   | .    | .   | .   | .  | .   | .   | .   |

1. Depress the RECALL button.
2. Start the tape reader.

CH 223

Logic for set-up buttons is on boards 401, 402, 403, 003. Logic for button switch is to replace button switch.

|     |     |     |      |     |     |    |     |     |     |
|-----|-----|-----|------|-----|-----|----|-----|-----|-----|
| OSA | TO  | D   | E1   | OB2 | TSO | IC | BSC | IC  | D   |
| OB2 | OB5 | OB6 | 1E18 | 1TF |     |    | OB5 | OTF | OB2 |
| OB6 | .   | .   | .    | .   | .   | .  | .   | .   | .   |

1. Depress the RESET button.
2. Start the tape reader.

CH 224

Logic for set-up buttons is on boards 401, 402, 403, 406, 008. Logic for button switch is to replace button switch.

|      |      |     |      |     |      |      |      |      |     |
|------|------|-----|------|-----|------|------|------|------|-----|
| OSA  | D    | PE  | OFL0 | E   | OE18 | BSC  | PE   | OFL0 | OTF |
| PE   | OFL0 | .   | .    | OSA | PE   | E    | OE18 | BSC  | D   |
| 1E18 | 1TF  | D   | .    | .   | OSA  | OFL0 | E    | OE18 | BSC |
| D    | 1E18 | 1TF | D    | .   | .    | .    | .    | .    | .   |

1. This test checks the OFF position of the SET UP and RESET buttons.
2. Start the tape reader.

CH 225

Logic for set-up buttons is on boards 401, 402, 403, 406, 002, 008. Logic for button switch is to replace button switch.

|     |      |      |      |      |     |      |      |     |      |
|-----|------|------|------|------|-----|------|------|-----|------|
| OSA | D    | E1   | TSO  | OP3  | OP1 | OB2  | OE18 | BSC | IC   |
| D   | OB2  | OB5  | OB6  | 1E18 | 1TF | OB2  | OTF  | IC  | D    |
| OB5 | OB6  | .    | .    | OSA  | D   | PE   | OFL0 | E   | OE18 |
| BSC | PE   | OFL0 | 1E18 | 1TF  | PE  | OFL0 | .    | .   | OSA  |
| PE  | OFL0 | E    | OE18 | BSC  | D   | 1E18 | OTF  | D   | .    |

Place the MARGINAL TEST switch in the ON position. The POWER READY lamp must be flashing.

Place the MARGINAL TEST switch in the OFF position. The POWER READY lamp must be lit and must not be flashing.

The following tests check the PARITY, ERROR, NO SOLUTION, COMPUTE, IN/OUT, and KEYBOARD lamps.

Start the tape reader.

CH 226 Logic for terms is on boards 401, 402, 403, 404, 405. Logic for neon lamps is to replace neon 014, 016, 018, 019, 020.  
OSA . . . . .

If there are no errors:

1. The IN/OUT lamp must be lit.
2. The COMPUTE and KEYBOARD lamps must not be lit.
3. The PARITY, ERROR, and NO SOLUTION lamps must be lit and not flashing.
4. Start the tape reader.

CH 227 Logic for terms is on boards 401, 402, 403, 404, 405. Logic for neon lamps is to replace neon 020.  
OSA 04 0B6 0B5 AK . . . . .

If there are no errors:

1. The IN/OUT and KEYBOARD lamps must be lit.
2. The COMPUTE lamp must not be lit.
3. The PARITY, ERROR, and NO SOLUTION lamps must be lit and not flashing.
4. Start the tape reader.

CH 228 Logic for terms is on boards 401, 402, 403, 404, 405. Logic for neon lamps is to replace neon 016, 019.  
OSA OP3 OP2 K AK 04 0B6 0B5 . . . . .

If there are no errors:

1. The COMPUTE lamp must be lit.
2. The IN/OUT and KEYBOARD lamps must not be lit.
3. The PARITY, ERROR, and NO SOLUTION lamps must be lit and not flashing.
4. Start the tape reader.

Tape  
stops Marker  
number

CH 229

Logic for terms is on boards 401, 402, 403, 404, 405. Logic for neon lamps is to replace neon 014, 015.

OSA OP3 OP1 K CLC OFLO PE . . .

If there are no errors:

1. The IN/OUT, COMPUTE, and KEYBOARD lamps must not be lit.
2. The PARITY and ERROR lamps must be flashing.
3. The NO SOLUTION lamp must be lit and not flashing.
4. Start the tape reader.

CH 230

Logic for terms is on boards 401, 402, 403, 404, 405. Logic for neon lamps is to replace neon 018.

OSA OP3 OP2 OP1 D AK O4 OB6 OB5 .

If there are no errors:

1. The IN/OUT, COMPUTE, and KEYBOARD lamps must not be lit.
2. The NO SOLUTION lamp must be flashing.
3. The PARITY and ERROR lamps must be lit and not flashing.
4. Start the tape reader.

CH 231

Logic for terms is on boards 401, 402, 403, 404, 405.

OSA OP2 OP1 E AK O4 OB6 OB5 .

If there are no errors:

1. The IN/OUT lamp must be lit.
2. The COMPUTE and KEYBOARD lamps must not be lit.
3. The PARITY, ERROR, and NO SOLUTION lamps must be lit and not flashing.
4. Start the tape reader.

CH 232

Logic for terms is on boards 401, 402, 403, 404, 405.

OSA O4 OB6 OB5 . . .

If there are no errors:

1. The KEYBOARD lamp must not be lit.
2. Start the tape reader.

CH 233

Logic for terms is on boards 401, 402, 403, 404, 405.  
OSA AK OB5 . . . . .

If there are no errors:

1. The KEYBOARD lamp must not be lit.
2. Start the tape reader.

CH 234

Logic for terms is on boards 401, 402, 403, 404, 405.  
OSA PS AK 04 OB6 OB5 . . . . .

If there are no errors:

1. The KEYBOARD lamp must not be lit.
2. Start the tape reader.

CH 235

Logic for terms is on boards 401, 402, 403, 404, 405.  
OSA AK 04 OB5 . . . . .

If there are no errors:

1. The KEYBOARD lamp must not be lit.
2. Start the tape reader.

CH 236

Logic for terms is on boards 401, 402, 403, 404, 405.  
OSA AK 04 OB6 . . . . .

If there are no errors: The KEYBOARD indicator must not be lit.

The following tests check the operation of the FADAC keyboard. After starting the tape reader depress the 0 keyboard key.

Start the tape reader.





[illegible]

1. After starting the tape reader, depress keyboard key 1.
2. Start the tape reader.

[illegible]

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[illegible]

1. After starting the tape reader, depress keyboard key 2.
2. Start the tape reader.

Logic for terms is to replace keyboard 010.

[illegible]



CH 240

[illegible]







247

[illegible]

CH 242

Logic for terms is to replace keyboard 010.

[illegible]





243 --Cont

[illegible]

1. After starting the tape reader, depress keyboard key 7.
2. Start the tape reader.

[illegible]



CH 245

[illegible]





--Cont

[illegible]

1. After starting the tape reader, depress keyboard key -.
2. Start the tape reader.

CH 247

Logic for terms is to replace keyboard 010.

[illegible]





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[illegible]

1. After starting the tape reader, depress keyboard key CLEAR.
2. Start the tape reader.





















## 256

| Logic for terms is on boards 434, 437, 439. |     |     |     |     |     |    |    |     |     | Check memory plugs P3, P4, P7, P8. |    |     |     |     |     |     |     |     |     |    |     |     |
|---|-----|-----|-----|-----|-----|----|----|-----|-----|------------------------------------|----|-----|-----|-----|-----|-----|-----|-----|-----|----|-----|-----|
| 04  | 1SA | WMO | C7  | C4  | C3  | C2 | PS | 1TA | SS1 | .                                  | 08 | 1SA | WMO | C6  | C5  | C4  | PS  | 1TA | SS1 | .  |     |     |
|   | 0SA | WMO | C7  | 1TA | SS1 | .  | 05 | .   | 06  | .                                  |    | 01  | 1SA | WMO | C7  | 0SA | C6  | C5  | C4  | PS | 1TA |     |
|   | 0SA | WMO | C7  | 1TA | SS1 | .  | 05 | .   | 06  | .                                  |    |     | 06  | 1SA | WMO | C7  | 0SA | C6  | C5  | C4 | PS  | 1TA |
|   | SS1 | WMO | C7  | 0SA | C6  | C5 | C4 | PS  | 1TA | SS1                                |    |     |     | .   | 07  | 0SA | WMO | C7  | 0SA | C6 | C5  | C4  |
| 1SA   | WMO | C7  | 0SA | C6  | C5  | C4 | PS | 1TA | SS1 | .                                  | 08 |     |     | 0SA |     | WMO | C7  | 0SA | C6  | C5 | C4  | PS  |
| 0SA   | WMO | C7  | 0SA | C6  | C5  | C4 | PS | 1TA | SS1 | .                                  |    | 09  |     | 0SA |     | WMO | C7  | 0SA | C6  | C5 | C4  | PS  |
| 1SA   | WMO | C7  | 0SA | C6  | C5  | C4 | PS | 1TA | SS1 | .                                  |    |     | 10  | 0SA |     | WMO | C7  | 0SA | C6  | C5 | C4  | PS  |
| 0SA   | WMO | C7  | 0SA | C6  | C5  | C4 | PS | 1TA | SS1 | .                                  |    |     |     | 11  | 0SA | WMO | C7  | 0SA | C6  | C5 | C4  | PS  |
| 1SA   | WMO | C7  | 0SA | C6  | C5  | C4 | PS | 1TA | SS1 | .                                  | 12 |     |     |     | 0SA | WMO | C7  | 0SA | C6  | C5 | C4  | PS  |
| 0SA   | WMO | C7  | 0SA | C6  | C5  | C4 | PS | 1TA | SS1 | .                                  |    | 13  |     |     | 0SA | WMO | C7  | 0SA | C6  | C5 | C4  | PS  |
| 1SA   | WMO | C7  | 0SA | C6  | C5  | C4 | PS | 1TA | SS1 | .                                  |    |     | 14  |     | 0SA | WMO | C7  | 0SA | C6  | C5 | C4  | PS  |
| 0SA   | WMO | C7  | 0SA | C6  | C5  | C4 | PS | 1TA | SS1 | .                                  |    |     |     | 15  | 0SA | WMO | C7  | 0SA | C6  | C5 | C4  | PS  |
| 1SA   | WMO | C7  | 0SA | C6  | C5  | C4 | PS | 1TA | SS1 | .                                  | 16 |     |     |     | 0SA | WMO | C7  | 0SA | C6  | C5 | C4  | PS  |
| 0SA   | WMO | C7  | 0SA | C6  | C5  | C4 | PS | 1TA | SS1 | .                                  |    | 17  |     |     | 0SA | WMO | C7  | 0SA | C6  | C5 | C4  | PS  |
| 1SA   | WMO | C7  | 0SA | C6  | C5  | C4 | PS | 1TA | SS1 | .                                  |    |     | 18  |     | 0SA | WMO | C7  | 0SA | C6  | C5 | C4  | PS  |
| 0SA   | WMO | C7  | 0SA | C6  | C5  | C4 | PS | 1TA | SS1 | .                                  |    |     |     | 19  | 0SA | WMO | C7  | 0SA | C6  | C5 | C4  | PS  |
| 1SA   | WMO | C7  | 0SA | C6  | C5  | C4 | PS | 1TA | SS1 | .                                  | 20 |     |     |     | 0SA | WMO | C7  | 0SA | C6  | C5 | C4  | PS  |
| 0SA   | WMO | C7  | 0SA | C6  | C5  | C4 | PS | 1TA | SS1 | .                                  |    | 21  |     |     | 0SA | WMO | C7  | 0SA | C6  | C5 | C4  | PS  |
| 1SA   | WMO | C7  | 0SA | C6  | C5  | C4 | PS | 1TA | SS1 | .                                  |    |     | 22  |     | 0SA | WMO | C7  | 0SA | C6  | C5 | C4  | PS  |
| 0SA   | WMO | C7  | 0SA | C6  | C5  | C4 | PS | 1TA | SS1 | .                                  |    |     |     | 23  | 0SA | WMO | C7  | 0SA | C6  | C5 | C4  | PS  |
| 1SA   | WMO | C7  | 0SA | C6  | C5  | C4 | PS | 1TA | SS1 | .                                  | 24 |     |     |     | 0SA | WMO | C7  | 0SA | C6  | C5 | C4  | PS  |
| 0SA   | WMO | C7  | 0SA | C6  | C5  | C4 | PS | 1TA | SS1 | .                                  |    | 25  |     |     | 0SA | WMO | C7  | 0SA | C6  | C5 | C4  | PS  |
| 1SA   | WMO | C7  | 0SA | C6  | C5  | C4 | PS | 1TA | SS1 | .                                  |    |     | 26  |     | 0SA | WMO | C7  | 0SA | C6  | C5 | C4  | PS  |
| 0SA   | WMO | C7  | 0SA | C6  | C5  | C4 | PS | 1TA | SS1 | .                                  |    |     |     | 27  | 0SA | WMO | C7  | 0SA | C6  | C5 | C4  | PS  |
| 1SA   | WMO | C7  | 0SA | C6  | C5  | C4 | PS | 1TA | SS1 |                                    |    |     |     |     |     |     |     |     |     |    |     |     |

| Logic for terms is on boards 434, 437, 439. |     |     |     |     |    |    |     |     |     | Check memory plugs P3, P4, P7, P8. |      |     |     |     |     |    |    |     |     |     |    |
|---|-----|-----|-----|-----|----|----|-----|-----|-----|------------------------------------|------|-----|-----|-----|-----|----|----|-----|-----|-----|----|
| 1SA   | MW1 | MW0 | C6  | C4  | C3 | PS | OTA | SS1 | .   | 08                                 | 1SA  | MW1 | MW0 | C6  | C4  | C3 | PS | OTA | SS1 | .   | 08 |
| MSLO  | C2- | 1TA | SS2 | .   | 01 | .  | .   | .   | .   | .                                  | MSLO | C2- | 1TA | SS2 | .   | 01 | .  | .   | .   | .   | .  |
| OSA   | MW0 | C7  | SS2 | C5  | C4 | C3 | C2  | PS  | 1TA | .                                  | OSA  | MW0 | C7  | SS2 | C5  | C4 | C3 | C2  | PS  | 1TA | .  |
| 1SA   | MW1 | C7  | SS2 | C5  | C4 | C3 | C2  | PS  | 1TA | .                                  | 1SA  | MW1 | C7  | SS2 | C5  | C4 | C3 | C2  | PS  | 1TA | .  |
| SS2   | .   | 01  | SS2 | SS2 | C3 | 02 | .   | .   | .   | .                                  | SS2  | .   | 01  | SS2 | SS2 | C3 | 02 | .   | .   | .   | .  |
| OSA   | MW0 | C5  | 1TA | SS2 | C3 | 02 | .   | .   | .   | .                                  | OSA  | MW0 | C5  | 1TA | SS2 | C3 | 02 | .   | .   | .   | .  |
| 1SA   | MW1 | C7  | SS2 | C4  | C3 | 02 | .   | .   | .   | .                                  | 1SA  | MW1 | C7  | SS2 | C4  | C3 | 02 | .   | .   | .   | .  |
| 02  | MW0 | C6  | 1TA | SS2 | C3 | 03 | .   | .   | .   | .                                  | 02   | MW0 | C6  | 1TA | SS2 | C3 | 03 | .   | .   | .   | .  |
| 1SA   | MW1 | C7  | SS2 | C4  | C3 | 03 | .   | .   | .   | .                                  | 1SA  | MW1 | C7  | SS2 | C4  | C3 | 03 | .   | .   | .   | .  |
| 03  | MW0 | C6  | SS2 | SS2 | C3 | 03 | .   | .   | .   | .                                  | 03   | MW0 | C6  | SS2 | SS2 | C3 | 03 | .   | .   | .   | .  |
| OSA   | MW0 | C6  | SS2 | SS2 | C3 | 03 | .   | .   | .   | .                                  | OSA  | MW0 | C6  | SS2 | SS2 | C3 | 03 | .   | .   | .   | .  |
| 1SA   | MW1 | C7  | SS2 | C4  | C3 | 03 | .   | .   | .   | .                                  | 1SA  | MW1 | C7  | SS2 | C4  | C3 | 03 | .   | .   | .   | .  |
| 04  | MW0 | C6  | SS2 | SS2 | C3 | 03 | .   | .   | .   | .                                  | 04   | MW0 | C6  | SS2 | SS2 | C3 | 03 | .   | .   | .   | .  |
| OSA   | MW0 | C7  | SS2 | SS2 | C3 | 03 | .   | .   | .   | .                                  | OSA  | MW0 | C7  | SS2 | SS2 | C3 | 03 | .   | .   | .   | .  |
| 1SA   | MW1 | C7  | SS2 | C4  | C3 | 03 | .   | .   | .   | .                                  | 1SA  | MW1 | C7  | SS2 | C4  | C3 | 03 | .   | .   | .   | .  |
| OSA   | MW0 | C7  | SS2 | SS2 | C3 | 03 | .   | .   | .   | .                                  | OSA  | MW0 | C7  | SS2 | SS2 | C3 | 03 | .   | .   | .   | .  |
| 1SA   | MW1 | C7  | SS2 | C4  | C3 | 03 | .   | .   | .   | .                                  | 1SA  | MW1 | C7  | SS2 | C4  | C3 | 03 | .   | .   | .   | .  |
| SS2   | .   | 05  | SS2 | SS2 | C3 | 03 | .   | .   | .   | .                                  | SS2  | .   | 05  | SS2 | SS2 | C3 | 03 | .   | .   | .   | .  |

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Logic for terms for indexes 001-100 is on boards 434, 438, 439.  
Logic for terms for indexes 101-150 is on boards 433, 436, 437.  
Check memory plugs P3, P4, P7, P8.

[illegible]

262

Logic for terms is on boards 433, 436, 437. Check memory plugs P3, P4, P7, P8.

[illegible]

263

Logic for terms is on boards 433, 436, 437, 439. Check memory plugs P3, P4, P7, P8.

[illegible]





# Tape Marker stops number

|     |   |                                    |             |    |
|-----|---|------------------------------------|-------------|----|
| 266 | Logic for terms is on boards 433, 435, 437, 439.      | Check memory plugs P3, P4, P7, P8. | C431        | 08 |
|     | 1SA MW1 MWO C6 C6                                     | 0TA SS7 PS                         | 08 MSL3 SS7 |    |
|     | 1SA MW1 MWO C6 C6                                     | 0TA SS7 PS                         | 08 MSL3 SS7 |    |
|     | MSL3 C2 C3 C2 1TA                                     | 01                                 |             | 01 |
|     | OSA MW1 MWO C7 C6 C6                                  | PS SS8                             | SS8         |    |
|     | 1SA MW1 MWO C5 C3 C2                                  | SS8                                | 02          |    |
|     | OSA MW1 MWO C7 C6 C6                                  | 1TA SS8                            |             | 02 |
|     | 1SA MW1 MWO C7 C6 C6                                  | SS8                                | 03          |    |
|     | OSA MW1 MWO C6 C3 C2                                  | SS8                                |             | 03 |
|     | 1SA MW1 MWO C7 C6 C6                                  | 1TA SS8                            | 04          |    |
|     | OSA MW1 MWO C7 C6 C6                                  | SS8                                |             | 04 |
|     | 1SA MW1 MWO C7 C6 C6                                  | 1TA SS8                            | 05          |    |
|     | OSA MW1 MWO C7 C6 C6                                  | SS8                                |             | 05 |
|     | 1SA MW1 MWO C7 C6 C6                                  | PS SS8                             | SS8         |    |
|     | OSA MW1 MWO C7 C6 C6                                  | 1TA SS8                            |             | 06 |
|     | MSU1 MSS4   |                                    |             |    |
| 267 | Logic for terms is on boards 433, 435, 437, 439, 434. | Check memory plugs P3, P4, P7, P8. |             |    |
|     | 1SA MW1 MWO CFSW C6 C4                                | PS                                 |             | 06 |
|     | OSA MW1 MWO CFSW C7 C3                                | 1TA SS8                            |             | 07 |
|     | 1SA MW1 MWO C6 C5 C4                                  | SS8                                |             | 07 |
|     | OSA MW1 MWO CFSW C7 C5                                | 1TA SS8                            |             |    |
|     | 1SA MW1 MWO C6 C4 C5                                  | C2 SS8                             |             | 08 |
|     | OSA MW1 MWO C5 C4 C5                                  | SS8                                |             | 02 |
|     | MSU1 MSS4   | 05 MSU4                            | 01 MSU0     | 07 |
|     | 1SA MW1 MWO C7 C6 C6                                  | 01                                 | 06 MSU5     |    |
|     | OSA MW1 MWO C5 C4 C6                                  | 02                                 |             |    |
|     | 1SA MW1 MWO C7 C6 C6                                  | PS                                 | 1TA SS9     |    |
|     | OSA MW1 MWO C5 C4 C6                                  |                                    |             | 02 |
| 268 | Logic for terms is on boards 433, 434, 437.           | Check memory plugs P3, P4, P7, P8. |             |    |
|     | OSA MW1 MWO C6 C4 C5                                  | SS9                                |             | 03 |
|     | 1SA MW1 MWO C7 C5 C6                                  | PS                                 | SS9         |    |
|     | OSA MW1 MWO C6 C5 C6                                  | 1TA SS9                            | 04          |    |
|     | 1SA MW1 MWO C7 C3 C2                                  | SS9                                |             |    |
|     | OSA MW1 MWO C7 C4 C5                                  | PS                                 | 05          |    |
|     | 1SA MW1 MWO C7 C6 C6                                  | SS9                                | 1TA SS9     |    |
|     | OSA MW1 MWO C7 C6 C6                                  | PS                                 |             |    |
|     | 1SA MW1 MWO C7 C6 C6                                  | 1TA SS9                            |             | 06 |
|     | OSA MW1 MWO C7 C6 C6                                  | SS9                                | 07          |    |
|     | 1SA MW1 MWO C6 C5 C7                                  | PS                                 | SS9         | 07 |
|     | OSA MW1 MWO C6 C5 C7                                  | 1TA SS9                            |             | 08 |
|     | 1SA MW1 MWO C6 C5 C7                                  | SS9                                |             | 08 |



|      |      |     |    |    |      |     |     |    |      |
|------|------|-----|----|----|------|-----|-----|----|------|
| 1SA  | MW0  | C5  | C3 | C2 | PS   | OTA | SS9 | 01 | MSU0 |
| .    | 02   | .   | 03 | .  | 04   | .   | 05  | 06 | MSU5 |
| 1SA  | MSU1 | .   | 08 | .  | MSU3 | .   | SS9 | 08 | MSL4 |
| MSA4 | MW1  | MW0 | C6 | C4 | C2   | OTA | SS9 | 08 | MSL4 |
| C432 | .    | .   | .  | .  | .    | OTA | SS9 | 08 | MSL4 |
| 1SA  | MW1  | MW0 | C6 | C3 | PS   | OTA | SS9 | 08 | MSL4 |
| C2-  | .    | .   | .  | .  | .    | .   | .   | .  | .    |

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Logic for terms is on boards 433, 434, 439. Check memory plugs P3, P4, P7, P8.

|     |     |      |     |      |      |      |     |      |
|-----|-----|------|-----|------|------|------|-----|------|
| OSA | MW0 | C4   | 1TA | SS10 | 01   | PS   | 1TA | SS10 |
| 1SA | MW1 | C7   | C6  | C5   | C3   | C2   | PS  | SS10 |
| .   | .   | .    | .   | .    | .    | .    | .   | .    |
| OSA | MW0 | C5   | C4  | 1TA  | SS10 | .    | 02  | 02   |
| 1SA | MW1 | C7   | C6  | C3   | C2   | PS   | 1TA | SS10 |
| OSA | MW0 | C6   | C4  | 1TA  | SS10 | .    | 03  | 03   |
| 1SA | MW1 | C7   | C5  | C3   | C2   | PS   | 1TA | SS10 |
| OSA | MW0 | C6   | C5  | C4   | 1TA  | SS10 | 04  | 04   |
| 1SA | MW1 | C7   | C3  | C2   | PS   | SS10 | .   | .    |
| OSA | MW0 | C7   | C4  | 1TA  | SS10 | 05   | PS  | SS10 |
| 1SA | MW1 | CFSW | C6  | C5   | C3   | C2   | PS  | 1TA  |
| .   | .   | .    | .   | .    | .    | .    | .   | .    |
| OSA | MW0 | C7   | C5  | C4   | 1TA  | SS10 | .   | 06   |
| 1SA | MW1 | CFSW | C6  | C3   | C2   | PS   | 1TA | SS10 |
| OSA | MW0 | CFSW | C7  | C4   | 1TA  | SS10 | 07  | 07   |

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Logic for terms is on boards 433, 434, 437, 439. Check memory plugs P3, P4, P7, P8.

|     |     |      |    |      |      |      |      |      |
|-----|-----|------|----|------|------|------|------|------|
| 1SA | MW1 | C6   | C5 | C3   | C2   | PS   | 1TA  | SS10 |
| OSA | MW0 | CFSW | C7 | C5   | C4   | 1TA  | SS10 | 08   |
| 1SA | MW1 | C6   | C3 | C2   | PS   | 1TA  | SS10 | 08   |
| 1SA | MW1 | C5   | C3 | C2   | PS   | OTA  | SS10 | 01   |
| .   | 02  | MSU1 | 03 | MSU2 | 04   | MSU3 | 05   | MSU4 |
| .   | 07  | MSA4 | 08 | MSA5 | .    | .    | .    | .    |
| 1SA | MW1 | MW0  | C6 | C4   | SS10 | 08   | MSL4 | .    |
| OSA | MW1 | C4   | C2 | 1TA  | PS   | 1TA  | SS11 | .    |
| 1SA | MW0 | C7   | C5 | C3   | PS   | SS11 | 02   | 01   |
| OSA | MW1 | C5   | C4 | C2   | PS   | SS11 | .    | .    |
| 1SA | MW0 | C7   | C6 | C3   | PS   | SS11 | 02   | 02   |
| OSA | MW1 | C6   | C4 | C2   | PS   | SS11 | 03   | 03   |
| 1SA | MW0 | C7   | C5 | C3   | PS   | SS11 | .    | .    |



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Logic for terms is on boards 433, 434, 437. Check memory plugs P3, P4, P7, P8.

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Logic for terms is on boards 433, 434, 437, 439.

Logic for terms is on boards 433, 434, 437, 439. Check memory plugs P3, P4, P7, P8.

[illegible]

Logic for terms is on boards 433, 437, 439, 434.

Logic for terms is on boards 433, 437, 439, 434. Check memory plugs P3, P4, P7, P8.

|      |     |         |    |         |      |      |         |    |
|------|-----|---------|----|---------|------|------|---------|----|
| OSR  | MW0 | CFSW    | C7 | C4      | C2   | SS12 | .       | 07 |
| 1SA  | MW1 | C6      | C5 | C3      | PS   | 1TA  | SS12    | 07 |
| OSA  | MW0 | CFSW    | C7 | C5      | C4   | 1TA  | SS12    | .  |
| 1SA  | MW1 | C6      | C3 | PS      | 1TA  | C2   | 1TA     | 08 |
| 1SA  | MW1 | C5      | C3 | PS      | OTA  | SS12 | .       | 02 |
| MSU1 | .   | 03 MSU2 | .  | 04 MSU3 | .    | SS12 | 08      | 07 |
| MSS4 | .   | 08 MSS5 | .  | .       | .    | MSU4 | 01 MSU0 | 07 |
| 1SA  | MW1 | C6      | C4 | C2      | OTA  | SS12 | .       | .  |
| OSA  | MW1 | C4      | C3 | 1TA     | SS13 | .    | 08 MSL5 | .  |
| 1SA  | MW0 | C7      | C6 | C5      | C2   | PS   | 01      | 01 |
| OSA  | MW1 | C5      | C4 | C3      | 1TA  | SS13 | 1TA     | .  |
| 1SA  | MW0 | C7      | C6 | C2      | PS   | 1TA  | SS13    | 02 |
| OSA  | MW1 | C6      | C4 | C3      | 1TA  | SS13 | .       | 02 |
| 1SA  | MW1 | C7      | C6 | C3      | PS   | 1TA  | SS13    | .  |
| OSA  | MW1 | C6      | C4 | C2      | 1TA  | SS13 | 03      | 03 |
| 1SA  | MW0 | C7      | C5 | C2      | PS   | 1TA  | SS13    | .  |

274 Logic for terms is on boards 433, 434, 437. Check memory plugs P3, P4, P7, P8.

|     |      |      |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |      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       |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   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       |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |         |
|-----|------|------|------|------|------|------|------|------|------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|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| OSA | MSU1 | MSL6 | MSU2 | MSU3 | MSU4 | MSU5 | MSU6 | MSU7 | MSU8 | MSU9 | MSU10 | MSU11 | MSU12 | MSU13 | MSU14 | MSU15 | MSU16 | MSU17 | MSU18 | MSU19 | MSU20 | MSU21 | MSU22 | MSU23 | MSU24 | MSU25 | MSU26 | MSU27 | MSU28 | MSU29 | MSU30 | MSU31 | MSU32 | MSU33 | MSU34 | MSU35 | MSU36 | MSU37 | MSU38 | MSU39 | MSU40 | MSU41 | MSU42 | MSU43 | MSU44 | MSU45 | MSU46 | MSU47 | MSU48 | MSU49 | MSU50 | MSU51 | MSU52 | MSU53 | MSU54 | MSU55 | MSU56 | MSU57 | MSU58 | MSU59 | MSU60 | MSU61 | MSU62 | MSU63 | MSU64 | MSU65 | MSU66 | MSU67 | MSU68 | MSU69 | MSU70 | MSU71 | MSU72 | MSU73 | MSU74 | MSU75 | MSU76 | MSU77 | MSU78 | MSU79 | MSU80 | MSU81 | MSU82 | MSU83 | MSU84 | MSU85 | MSU86 | MSU87 | MSU88 | MSU89 | MSU90 | MSU91 | MSU92 | MSU93 | MSU94 | MSU95 | MSU96 | MSU97 | MSU98 | MSU99 | MSU100 | MSU101 | MSU102 | MSU103 | MSU104 | MSU105 | MSU106 | MSU107 | MSU108 | MSU109 | MSU110 | MSU111 | MSU112 | MSU113 | MSU114 | MSU115 | MSU116 | MSU117 | MSU118 | MSU119 | MSU120 | MSU121 | MSU122 | MSU123 | MSU124 | MSU125 | MSU126 | MSU127 | MSU128 | MSU129 | MSU130 | MSU131 | MSU132 | MSU133 | MSU134 | MSU135 | MSU136 | MSU137 | MSU138 | MSU139 | MSU140 | MSU141 | MSU142 | MSU143 | MSU144 | MSU145 | MSU146 | MSU147 | MSU148 | MSU149 | MSU150 | MSU151 | MSU152 | MSU153 | MSU154 | MSU155 | MSU156 | MSU157 | MSU158 | MSU159 | MSU160 | MSU161 | MSU162 | MSU163 | MSU164 | MSU165 | MSU166 | MSU167 | MSU168 | MSU169 | MSU170 | MSU171 | MSU172 | MSU173 | MSU174 | MSU175 | MSU176 | MSU177 | MSU178 | MSU179 | MSU180 | MSU181 | MSU182 | MSU183 | MSU184 | MSU185 | MSU186 | MSU187 | MSU188 | MSU189 | MSU190 | MSU191 | MSU192 | MSU193 | MSU194 | MSU195 | MSU196 | MSU197 | MSU198 | MSU199 | MSU200 | MSU201 | MSU202 | MSU203 | MSU204 | MSU205 | MSU206 | MSU207 | MSU208 | MSU209 | MSU210 | MSU211 | MSU212 | MSU213 | MSU214 | MSU215 | MSU216 | MSU217 | MSU218 | MSU219 | MSU220 | MSU221 | MSU222 | MSU223 | MSU224 | MSU225 | MSU226 | MSU227 | MSU228 | MSU229 | MSU230 | MSU231 | MSU232 | MSU233 | MSU234 | MSU235 | MSU236 | MSU237 | MSU238 | MSU239 | MSU240 | MSU241 | MSU242 | MSU243 | MSU244 | MSU245 | MSU246 | MSU247 | MSU248 | MSU249 | MSU250 | MSU251 | MSU252 | MSU253 | MSU254 | MSU255 | MSU256 | MSU257 | MSU258 | MSU259 | MSU260 | MSU261 | MSU262 | MSU263 | MSU264 | MSU265 | MSU266 | MSU267 | MSU268 | MSU269 | MSU270 | MSU271 | MSU272 | MSU273 | MSU274 | MSU275 | MSU276 | MSU277 | MSU278 | MSU279 | MSU280 | MSU281 | MSU282 | MSU283 | MSU284 | MSU285 | MSU286 | MSU287 | MSU288 | MSU289 | MSU290 | MSU291 | MSU292 | MSU293 | MSU294 | MSU295 | MSU296 | MSU297 | MSU298 | MSU299 | MSU300 | MSU301 | MSU302 | MSU303 | MSU304 | MSU305 | MSU306 | MSU307 | MSU308 | MSU309 | MSU310 | MSU311 | MSU312 | MSU313 | MSU314 | MSU315 | MSU316 | MSU317 | MSU318 | MSU319 | MSU320 | MSU321 | MSU322 | MSU323 | MSU324 | MSU325 | MSU326 | MSU327 | MSU328 | MSU329 | MSU330 | MSU331 | MSU332 | MSU333 | MSU334 | MSU335 | MSU336 | MSU337 | MSU338 | MSU339 | MSU340 | MSU341 | MSU342 | MSU343 | MSU344 | MSU345 | MSU346 | MSU347 | MSU348 | MSU349 | MSU350 | MSU351 | MSU352 | MSU353 | MSU354 | MSU355 | MSU356 | MSU357 | MSU358 | MSU359 | MSU360 | MSU361 | MSU362 | MSU363 | MSU364 | MSU365 | MSU366 | MSU367 | MSU368 | MSU369 | MSU370 | MSU371 | MSU372 | MSU373 | MSU374 | MSU375 | MSU376 | MSU377 | MSU378 | MSU379 | MSU380 | MSU381 | MSU382 | MSU383 | MSU384 | MSU385 | MSU386 | MSU387 | MSU388 | MSU389 | MSU390 | MSU391 | MSU392 | MSU393 | MSU394 | MSU395 | MSU396 | MSU397 | MSU398 | MSU399 | MSU400 | MSU401 | MSU402 | MSU403 | MSU404 | MSU405 | MSU406 | MSU407 | MSU408 | MSU409 | MSU410 | MSU411 | MSU412 | MSU413 | MSU414 | MSU415 | MSU416 | MSU417 | MSU418 | MSU419 | MSU420 | MSU421 | MSU422 | MSU423 | MSU424 | MSU425 | MSU426 | MSU427 | MSU428 | MSU429 | MSU430 | MSU431 | MSU432 | MSU433 | MSU434 | MSU435 | MSU436 | MSU437 | MSU438 | MSU439 | MSU440 | MSU441 | MSU442 | MSU443 | MSU444 | MSU445 | MSU446 | MSU447 | MSU448 | MSU449 | MSU450 | MSU451 | MSU452 | MSU453 | MSU454 | MSU455 | MSU456 | MSU457 | MSU458 | MSU459 | MSU460 | MSU461 | MSU462 | MSU463 | MSU464 | MSU465 | MSU466 | MSU467 | MSU468 | MSU469 | MSU470 | MSU471 | MSU472 | MSU473 | MSU474 | MSU475 | MSU476 | MSU477 | MSU478 | MSU479 | MSU480 | MSU481 | MSU482 | MSU483 | MSU484 | MSU485 | MSU486 | MSU487 | MSU488 | MSU489 | MSU490 | MSU491 | MSU492 | MSU493 | MSU494 | MSU495 | MSU496 | MSU497 | MSU498 | MSU499 | MSU500 | MSU501 | MSU502 | MSU503 | MSU504 | MSU505 | MSU506 | MSU507 | MSU508 | MSU509 | MSU510 | MSU511 | MSU512 | MSU513 | MSU514 | MSU515 | MSU516 | MSU517 | MSU518 | MSU519 | MSU520 | MSU521 | MSU522 | MSU523 | MSU524 | MSU525 | MSU526 | MSU527 | MSU528 | MSU529 | MSU530 | MSU531 | MSU532 | MSU533 | MSU534 | MSU535 | MSU536 | MSU537 | MSU538 | MSU539 | MSU540 | MSU541 | MSU542 | MSU543 | MSU544 | MSU545 | MSU546 | MSU547 | MSU548 | MSU549 | MSU550 | MSU551 | MSU552 | MSU553 | MSU554 | MSU555 | MSU556 | MSU557 | MSU558 | MSU559 | MSU560 | MSU561 | MSU562 | MSU563 | MSU564 | MSU565 | MSU566 | MSU567 | MSU568 | MSU569 | MSU570 | MSU571 | MSU572 | MSU573 | MSU574 | MSU575 | MSU576 | MSU577 | MSU578 | MSU579 | MSU580 | MSU581 | MSU582 | MSU583 | MSU584 | MSU585 | MSU586 | MSU587 | MSU588 | MSU589 | MSU590 | MSU591 | MSU592 | MSU593 | MSU594 | MSU595 | MSU596 | MSU597 | MSU598 | MSU599 | MSU600 | MSU601 | MSU602 | MSU603 | MSU604 | MSU605 | MSU606 | MSU607 | MSU608 | MSU609 | MSU610 | MSU611 | MSU612 | MSU613 | MSU614 | MSU615 | MSU616 | MSU617 | MSU618 | MSU619 | MSU620 | MSU621 | MSU622 | MSU623 | MSU624 | MSU625 | MSU626 | MSU627 | MSU628 | MSU629 | MSU630 | MSU631 | MSU632 | MSU633 | MSU634 | MSU635 | MSU636 | MSU637 | MSU638 | MSU639 | MSU640 | MSU641 | MSU642 | MSU643 | MSU644 | MSU645 | MSU646 | MSU647 | MSU648 | MSU649 | MSU650 | MSU651 | MSU652 | MSU653 | MSU654 | MSU655 | MSU656 | MSU657 | MSU658 | MSU659 | MSU660 | MSU661 | MSU662 | MSU663 | MSU664 | MSU665 | MSU666 | MSU667 | MSU668 | MSU669 | MSU670 | MSU671 | MSU672 | MSU673 | MSU674 | MSU675 | MSU676 | MSU677 | MSU678 | MSU679 | MSU680 | MSU681 | MSU682 | MSU683 | MSU684 | MSU685 | MSU686 | MSU687 | MSU688 | MSU689 | MSU690 | MSU691 | MSU692 | MSU693 | MSU694 | MSU695 | MSU696 | MSU697 | MSU698 | MSU699 | MSU700 | MSU701 | MSU702 | MSU703 | MSU704 | MSU705 | MSU706 | MSU707 | MSU708 | MSU709 | MSU710 | MSU711 | MSU712 | MSU713 | MSU714 | MSU715 | MSU716 | MSU717 | MSU718 | MSU719 | MSU720 | MSU721 | MSU722 | MSU723 | MSU724 | MSU725 | MSU726 | MSU727 | MSU728 | MSU729 | MSU730 | MSU731 | MSU732 | MSU733 | MSU734 | MSU735 | MSU736 | MSU737 | MSU738 | MSU739 | MSU740 | MSU741 | MSU742 | MSU743 | MSU744 | MSU745 | MSU746 | MSU747 | MSU748 | MSU749 | MSU750 | MSU751 | MSU752 | MSU753 | MSU754 | MSU755 | MSU756 | MSU757 | MSU758 | MSU759 | MSU760 | MSU761 | MSU762 | MSU763 | MSU764 | MSU765 | MSU766 | MSU767 | MSU768 | MSU769 | MSU770 | MSU771 | MSU772 | MSU773 | MSU774 | MSU775 | MSU776 | MSU777 | MSU778 | MSU779 | MSU780 | MSU781 | MSU782 | MSU783 | MSU784 | MSU785 | MSU786 | MSU787 | MSU788 | MSU789 | MSU790 | MSU791 | MSU792 | MSU793 | MSU794 | MSU795 | MSU796 | MSU797 | MSU798 | MSU799 | MSU800 | MSU801 | MSU802 | MSU803 | MSU804 | MSU805 | MSU806 | MSU807 | MSU808 | MSU809 | MSU810 | MSU811 | MSU812 | MSU813 | MSU814 | MSU815 | MSU816 | MSU817 | MSU818 | MSU819 | MSU820 | MSU821 | MSU822 | MSU823 | MSU824 | MSU825 | MSU826 | MSU827 | MSU828 | MSU829 | MSU830 | MSU831 | MSU832 | MSU833 | MSU834 | MSU835 | MSU836 | MSU837 | MSU838 | MSU839 | MSU840 | MSU841 | MSU842 | MSU843 | MSU844 | MSU845 | MSU846 | MSU847 | MSU848 | MSU849 | MSU850 | MSU851 | MSU852 | MSU853 | MSU854 | MSU855 | MSU856 | MSU857 | MSU858 | MSU859 | MSU860 | MSU861 | MSU862 | MSU863 | MSU864 | MSU865 | MSU866 | MSU867 | MSU868 | MSU869 | MSU870 | MSU871 | MSU872 | MSU873 | MSU874 | MSU875 | MSU876 | MSU877 | MSU878 | MSU879 | MSU880 | MSU881 | MSU882 | MSU883 | MSU884 | MSU885 | MSU886 | MSU887 | MSU888 | MSU889 | MSU890 | MSU891 | MSU892 | MSU893 | MSU894 | MSU895 | MSU896 | MSU897 | MSU898 | MSU899 | MSU900 | MSU901 | MSU902 | MSU903 | MSU904 | MSU905 | MSU906 | MSU907 | MSU908 | MSU909 | MSU910 | MSU911 | MSU912 | MSU913 | MSU914 | MSU915 | MSU916 | MSU917 | MSU918 | MSU919 | MSU920 | MSU921 | MSU922 | MSU923 | MSU924 | MSU925 | MSU926 | MSU927 | MSU928 | MSU929 | MSU930 | MSU931 | MSU932 | MSU933 | MSU934 | MSU935 | MSU936 | MSU937 | MSU938 | MSU939 | MSU940 | MSU941 | MSU942 | MSU943 | MSU944 | MSU945 | MSU946 | MSU947 | MSU948 | MSU949 | MSU950 | MSU951 | MSU952 | MSU953 | MSU954 | MSU955 | MSU956 | MSU957 | MSU958 | MSU959 | MSU960 | MSU961 | MSU962 | MSU963 | MSU964 | MSU965 | MSU966 | MSU967 | MSU968 | MSU969 | MSU970 | MSU971 | MSU972 | MSU973 | MSU974 | MSU975 | MSU976 | MSU977 | MSU978 | MSU979 | MSU980 | MSU981 | MSU982 | MSU983 | MSU984 | MSU985 | MSU986 | MSU987 | MSU988 | MSU989 | MSU990 | MSU991 | MSU992 | MSU993 | MSU994 | MSU995 | MSU996 | MSU997 | MSU998 | MSU999 | MSU1000 |
|-----|------|------|------|------|------|------|------|------|------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|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275 Logic for terms is on boards 433, 434, 437, 439. Check memory plugs P3, P4, P7, P8.

|     |      |      |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |
|-----|------|------|------|------|------|------|------|------|------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--|
| OSA | MSU1 | MSL6 | MSU2 | MSU3 | MSU4 | MSU5 | MSU6 | MSU7 | MSU8 | MSU9 | MSU10 | MSU11 | MSU12 | MSU13 | MSU14 | MSU15 | MSU16 | MSU17 | MSU18 | MSU19 | MSU20 | MSU21 | MSU22 | MSU23 | MSU24 | MSU25 | MSU26 | MSU27 | MSU28 | MSU29 | MSU30 | MSU31 | MSU32 | MSU33 | MSU34 | MSU35 | MSU36 | MSU37 | MSU38 | MSU39 | MSU40 | MSU41 | MSU42 | MSU43 | MSU44 | MSU45 | MSU46 | MSU47 | MSU48 | MSU49 | MSU50 | MSU51 | MSU52 | MSU53 | MSU54 | MSU55 | MSU56 | MSU57 | MSU58 | MSU59 | MSU60 | MSU61 | MSU62 | MSU63 | MSU64 | MSU65 | MSU66 | MSU67 | MSU68 | MSU69 | MSU70 | MSU71 | MSU72 | MSU73 | MSU74 | MSU75 | MSU76 | MSU77 | MSU78 | MSU79 | MSU80 | MSU81 | MSU82 | MSU83 | MSU84 | MSU85 | MSU86 | MSU87 | MSU88 | MSU89 | MSU90 | MSU91 | MSU92 | MSU93 | MSU94 | MSU95 | MSU96 | MSU97 | MSU98 | MSU99 | MSU100 | MSU101 | MSU102 | MSU103 | MSU104 | MSU105 | MSU106 | MSU107 | MSU108 | MSU109 | MSU110 | MSU111 | MSU112 | MSU113 | MSU114 | MSU115 | MSU116 | MSU117 | MSU118 | MSU119 | MSU120 | MSU121 | MSU122 | MSU123 | MSU124 | MSU125 | MSU126 | MSU127 | MSU128 | MSU129 |  |
|-----|------|------|------|------|------|------|------|------|------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--|



Tape  
stops Marker  
number

|      |   |      |      |     |      |      |      |      |      |      |
|------|---|------|------|-----|------|------|------|------|------|------|
| 277  | Logic for terms is on boards 433, 434, 437. Check memory plugs P3, P4, P7, P8.      |      |      |     |      |      |      |      |      |      |
| OSA  | MW1   | C6   | PS   | C4  | T1A  | C3   | SS15 | C2   | T1A  | SS15 |
| TSA  | MW0   | C7   | C4   | T1A | C3   | SS15 | C2   | T1A  | SS15 | 04   |
| OSA  | MW1   | C7   | C6   | C5  | PS   | SS15 | C2   | T1A  | SS15 | 05   |
| TSA  | MW0   | CFSW | C7   | C4  | C3   | PS   | SS15 | C2   | T1A  | 05   |
| OSA  | MW1   | C7   | C5   | C4  | C3   | T1A  | SS15 | C2   | T1A  | 06   |
| TSA  | MW0   | CFSW | C6   | PS  | C4   | SS15 | C2   | T1A  | SS15 | 07   |
| OSA  | MW1   | CFSW | C7   | C5  | PS   | T1A  | SS15 | C2   | T1A  | 07   |
| TSA  | MW0   | C6   | C5   | PS  | C4   | T1A  | SS15 | C2   | T1A  | SS15 |
| OSA  | MW1   | CFSW | C7   | C5  | C3   | C4   | T1A  | SS15 | C2   | SS15 |
| 08   | MW0   | C6   | PS   | T1A | SS15 | C3   | SS15 | C2   | T1A  | SS15 |
| TSA  | MW0   | C5   | PS   | OTA | SS15 | C4   | SS15 | C2   | T1A  | SS15 |
| TSA  | MW0   | C5   | PS   | OTA | SS15 | C4   | SS15 | C2   | T1A  | SS15 |
| 03   | MSU2  | 04   | MSU3 | 05  | MSU4 | 06   | MSU5 | 07   | MSU1 | 02   |
| 08   | MSS5  | 04   | MSU3 | 05  | MSU4 | 06   | MSU5 | 07   | MSS4 | 07   |
| TSA  | MW1   | C6   | C4   | C3  | OTA  | SS15 | C2   | T1A  | SS15 | 08   |
| C433 | MW1   | C6   | C4   | C3  | OTA  | SS15 | C2   | T1A  | SS15 | 08   |
| 278  | Logic for terms is on boards 433, 434, 437, 439. Check memory plugs P3, P4, P7, P8. |      |      |     |      |      |      |      |      |      |
| TSA  | MW1   | MW0  | C6   | C2  | PS   | SS15 | C2   | T1A  | SS15 | 08   |
| C2   | MW0   | C4   | C3   | C2  | T1A  | SS16 | C2   | T1A  | SS16 | 08   |
| OSA  | MW1   | C7   | C6   | C5  | PS   | T1A  | SS16 | C2   | T1A  | 01   |
| TSA  | MW0   | C7   | C6   | C5  | PS   | T1A  | SS16 | C2   | T1A  | 01   |
| OSA  | MW1   | C5   | C4   | C3  | T1A  | SS16 | C2   | T1A  | SS16 | 02   |
| TSA  | MW0   | C7   | C6   | C5  | PS   | T1A  | SS16 | C2   | T1A  | 02   |
| OSA  | MW1   | C6   | C4   | C3  | T1A  | SS16 | C2   | T1A  | SS16 | 03   |
| TSA  | MW0   | C7   | C5   | PS  | T1A  | SS16 | C2   | T1A  | SS16 | 03   |
| OSA  | MW1   | C6   | C5   | C4  | C3   | T1A  | SS16 | C2   | T1A  | 04   |
| TSA  | MW0   | C7   | PS   | T1A | SS16 | C2   | T1A  | SS16 | C2   | 04   |
| OSA  | MW1   | C7   | C4   | C3  | T1A  | SS16 | C2   | T1A  | SS16 | 05   |
| TSA  | MW0   | C7   | C6   | C5  | PS   | T1A  | SS16 | C2   | T1A  | 05   |
| OSA  | MW1   | CFSW | C6   | C5  | C4   | C3   | T1A  | SS16 | C2   | 06   |
| TSA  | MW0   | C7   | C5   | C4  | C3   | T1A  | SS16 | C2   | T1A  | 06   |
| OSA  | MW1   | CFSW | C6   | PS  | T1A  | SS16 | C2   | T1A  | SS16 | 06   |
| 279  | Logic for terms is on boards 433, 434, 439. Check memory plugs P3, P4, P7, P8.      |      |      |     |      |      |      |      |      |      |
| OSA  | MW0   | CFSW | C7   | C4  | PS   | SS16 | C2   | T1A  | SS16 | 07   |
| TSA  | MW1   | C6   | C5   | PS  | T1A  | SS16 | C2   | T1A  | SS16 | 07   |
| OSA  | MW0   | CFSW | C7   | C5  | C4   | SS16 | C2   | T1A  | SS16 | 07   |
| 08   | MW1   | C6   | PS   | T1A | SS16 | C2   | T1A  | SS16 | C2   | SS16 |
| TSA  | MW1   | C5   | PS   | OTA | SS16 | C2   | T1A  | SS16 | C2   | SS16 |
| TSA  | MW1   | C5   | PS   | OTA | SS16 | C2   | T1A  | SS16 | C2   | SS16 |
| 03   | MSU2  | 04   | MSU3 | 05  | MSU4 | 06   | MSU5 | 07   | MSU1 | 02   |
| 08   | MSS5  | 04   | MSU3 | 05  | MSU4 | 06   | MSU5 | 07   | MSS4 | 07   |
| TSA  | MW1   | MW0  | C6   | C4  | C3   | OTA  | SS16 | C2   | T1A  | 08   |
| MSL7 | MW1   | MW0  | C6   | C4  | C3   | OTA  | SS16 | C2   | T1A  | 08   |





[illegible]



288 MW1 and test, zero side.  
 1SA TX TP  
 1TF MW1  
 1SA TX MN  
 1E18 1TF MW1  
 1SA TX TP  
 1E18 1TF MW1

289 MW0 or test, one side. Logic for one side MW0 is on boards 340, 439.  
 0SA C2 C5  
 1TF MW0 01  
 1SA TX MN  
 C7 OE18 1SA  
 0SA C2 C5  
 MW0 02  
 1SA TX D  
 PS C7 OE18  
 0SA C2 C5  
 1SA TX MW1  
 OE18 1E18  
 0SA C2 C5  
 1E18 1TF MW0

290  
 1SA TX MW1  
 C7 OE18 1SA  
 0SA B2 C5  
 MW0 1E18 1TF  
 1SA 05 03  
 BSC MW0 1E18  
 0SA B2 C5  
 1E18 1TF MW0  
 1SA D K  
 OE18 BSC

1E18 OSA OE18 TXS PS OE18 MN- PS C7 PN C7 MNA- C4 MNA- PN PN 03 TXC C3 C4 01 C6 05 1E18 C6 K 1SA C6 MW0 05 1TF C6 04 D 1E18 C6 MW0 TP 1TF C6 06 ND 1E18

C7 TP C3 02 C3 01 C4 03 TXC C3 C4 01 C6 05 1E18 C6 K 1SA C6 MW0 05 1TF C6 04 D 1E18 C6 MW0 TP 1TF C6 06 ND 1E18

PS C7 02 PN C7 01 MNA- C4 MNA- PN PN 03 TXC C3 C4 01 C6 05 1E18 C6 K 1SA C6 MW0 05 1TF C6 04 D 1E18 C6 MW0 TP 1TF C6 06 ND 1E18

OE18 TXS PS OE18 MN- PS C7 PN C7 MNA- C4 MNA- PN PN 03 TXC C3 C4 01 C6 05 1E18 C6 K 1SA C6 MW0 05 1TF C6 04 D 1E18 C6 MW0 TP 1TF C6 06 ND 1E18

03 02 01 03 04 05 06

1E18 OSA OE18 TXS PS OE18 MN- PS C7 PN C7 MNA- C4 MNA- PN PN 03 TXC C3 C4 01 C6 05 1E18 C6 K 1SA C6 MW0 05 1TF C6 04 D 1E18 C6 MW0 TP 1TF C6 06 ND 1E18

1E18 PS 1TF C3 OE18 C7 1SA OE18 C3 PS BSC OE18 MW0 PS



|     |   |      |      |      |      |      |      |      |      |      |      |
|-----|---|------|------|------|------|------|------|------|------|------|------|
| 291 | MW0 and test, one side.   |      |      |      |      |      |      |      |      |      |      |
|     | 1SA   | TX   | 05   | 03   | TP   | MW0  | 01   | C4   | C3   | PS   | C7   |
|     | OE18  | 1SA  | 1E18 | OTF  | MW0  |      |      | MNA- |      | TP   |      |
|     | TXS   |      |      |      |      |      |      |      |      |      |      |
|     | 1SA   | TX   | AK   | E    | MC   | MN   |      | 06   | TP   |      |      |
|     | C3  | PS   | C7   | OE18 | 1SA  | 1E18 |      | OTF  | MW0  | MW0  | 01   |
|     | 1SA   | TX   | MN   | 05   | 03   | PN   |      | MW0  | C4   | C3   | PS   |
|     | C7  | OE18 | 1SA  | 1E18 | OTF  | MW0  |      |      | 01   | TXP- | 03   |
|     |   | 05   |      |      |      |      |      |      |      |      | PN   |
|     | 1SA   | TX   | D    | K    | ND   | TP   |      | MW0  | C4   | C4   | PS   |
|     | C7  | OE18 | 1SA  | 1E18 | OTF  | MW0  |      |      | 02   | MNA- | 04   |
|     |   | 06   |      |      |      |      |      |      |      |      |      |
|     | 1SA   | TX   | AK   | E    | MC   | 06   |      | TP   | MW0  | C4   | C3   |
|     | PS  | C7   | OE18 | 1SA  | 1E18 | OTF  |      | MW0  | 02   | KW   |      |
|     | 1SA   | TX   | D    | K    | MN   | ND   |      | PN   | MW0  | C4   | C3   |
|     | PS  | C7   | OE18 | 1SA  | 1E18 | OTF  |      | MW0  |      | 02   | TXP- |
|     | PN  |      | 06   |      |      |      |      |      |      |      |      |
|     | 1SA   | AK   | TXS  | MC   | 06   | MW0  |      | C4   | C3   | PS   | C7   |
|     | OE18  | 1SA  | E    | OTF  | MW0  |      | 03   | OW   |      |      |      |
|     |   |      | 1E18 |      |      |      |      |      |      |      |      |
| 292 | 1SA   | AK   | E    | MC   | 06   | MWC  |      | C4   | C3   | PS   | C7   |
|     | OE18  | 1SA  | 1E18 | OTF  | MW0  |      | 04   | KW   |      | KW   |      |
|     | 1SA   | AK   | E    | 06   | MC   | PN   |      | MW0  | C4   | C3   | PS   |
|     | C7  | OE18 | 1SA  | 1E18 | OTF  | MW0  |      |      | 05   | OW   |      |
| 293 | MW0 or test, zero side. Logic for zero side MW0 is on boards 340, 341, 440, 441, 439. |      |      |      |      |      |      |      |      |      |      |
|     | OSA   | C2   | C5   | C6   | MN   | MW0  | OE18 | OSA  | 1E18 | OTF  |      |
|     | MW0   |      | 01   |      |      |      |      |      |      |      |      |
|     | 1SA   | T0   | TX   | TP   | OE18 | OSA  | 1E18 | OTF  |      |      | 01   |
|     | OSA   | C2   | C5   | C6   | AK   | E    | 06   | 06   | TP   | MW0  | OE18 |
|     | OSA   | 1E18 | OTF  | MW0  |      |      |      |      |      |      |      |
|     | 1SA   | D    | ND   | 05   | 03   | PN   |      | OE18 | OSA  | 1E18 | OTF  |
|     | MW0   |      | 02   |      |      |      |      |      |      |      |      |
|     | OSA   | C2   | C5   | C6   | TX   | AK   |      | ND   | PN   | MW0  | OE18 |
|     | OSA   | 1E18 | OTF  | MW0  |      |      |      |      |      |      |      |
|     | 1SA   | D    | K    | OE18 | OSA  | 1E18 | OTF  | OTF  | MW0  | OSA  | 03   |
|     | OSA   | C2   | C5   | C6   | TX   | PN   |      | MW0  | OE18 | 1E18 |      |
|     | OTF   | MW0  |      | 04   |      |      |      | OSA  | 1E18 | OTF  |      |
|     | 1SA   | AK   | D    | K    | ND   | OE18 |      | OSA  |      | MW0  |      |
|     |   |      | 04   |      |      |      |      |      |      |      |      |
|     |   | 04   |      |      |      |      |      |      |      |      |      |
| 294 | OSA   | C2   | C5   | C6   | TX   | AK   |      | D    | PN   | MW0  | OE18 |
|     | OSA   | 1E18 | OTF  | MW0  |      |      |      |      |      |      |      |
|     | 1SA   | K    | ND   | OE18 | OSA  | 1E18 | OTF  | OTF  | MW0  | OSA  | 05   |
|     | OSA   | C2   | C5   | C6   | TX   | K    |      | 06   | PN   | MW0  | OE18 |
|     | OSA   | 1E18 | OTF  | MW0  |      |      |      |      |      |      |      |



|     |      |      |      |      |     |      |     |     |      |
|-----|------|------|------|------|-----|------|-----|-----|------|
| 1SA | E    | 05   | 03   | 0E18 | OSA | 1E18 | OTF | MMO | 06   |
| OSA | C2   | C5   | C5   | TX   | E   | K    | PN  | MMO | 0E18 |
| OSA | 1E18 | OTF  | MMO  | 0E18 | 07  | 1E18 | OTF | MMO | 07   |
| 1SA | 06   | 05   | 03   | TX   | OSA | K    | 06  | 05  | PN   |
| OSA | C2   | C5   | C6   | OTF  | MMO | MMO  | 08  | 03  | PN   |
| MMO | 0E18 | OSA  | 1E18 | 1E18 | OTF | K    | 09  | 09  | PN   |
| 1SA | 03   | 0E18 | OSA  | TX   | E   | MMO  | 06  | 03  | PN   |
| OSA | C2   | C5   | C6   | OTF  | MMO | K    | 09  | 03  | PN   |
| MMO | 0E18 | OSA  | 1E18 | OTF  | MMO | MMO  | 09  | 09  | PN   |
| 1SA | 05   | 0E18 | OSA  | 1E18 | OTF | MMO  | 09  | 09  | PN   |

MMO and test, zero side.

|      |      |      |     |      |     |      |    |      |      |    |
|------|------|------|-----|------|-----|------|----|------|------|----|
| 1SA  | T0   | TX   | AK  | K    | MN  | PN   | TP | C4   | C3   | 02 |
| C7   | PS   | 0E18 | OSA | 1E18 | 1TF | MMO  | 01 | MNA  | 01   | 02 |
| TP   | D    | 05   | TX  | 05   | 03  | C4   | 03 | C7   | PS   | 03 |
| 1SA  | OSA  | 04   | ND  | MMO  | 01  | TP0- | 02 | PN-  | PS   | 03 |
| 0E18 | 0A   | AK-  | 1TF | D    | 05  | C4   | 01 | C7   | PS   | 03 |
| 1SA  | T0   | AK   | 05  | 03   | TP  | K-   | 03 | TP0- | TX-  | 01 |
| 0E18 | 06   | 1E18 | 07  | MMO  | 08  | 05   | 09 | PS   | 0E18 | 01 |
| 1SA  | TX   | K    | 07  | ND   | 05  | C3   | 02 | PS   | C3   | 01 |
| OSA  | 1E18 | 1TF  | MMO | E    | 05  | 06   | 09 | C4   | 03   | 01 |
| 1SA  | T0   | D    | OSA | K    | ND  | MMO  | 05 | K    | 03   | 01 |
| C7   | PS   | 0E18 | 03  | 1E18 | AK- | C7   | 05 | OE18 | 03   | 01 |
| TP0- | TX-  | MMN  | 05  | C4   | C3  | PN-  | 05 | 0E18 | 03   | 01 |
| 1SA  | TX   | MMO  | 09  | TXC  | 04  | 02   | 05 | 0E18 | 03   | 01 |
| 1E18 | 1TF  | MMO  | 09  | TXC  | 04  | 02   | 05 | 0E18 | 03   | 01 |

Read switch or test CN number channel.

296

The MNF drive is on board 302.

Logic for terms for indexes 001-039 is on boards 303, 401, 408.

Logic for terms for indexes 040-061 is on boards 303, 402, 408.

Logic for terms for indexes 062-090 is on boards 304, 402, 408.

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| OSA | E7 | E3 | E1 | E4 | 1TA | MNF | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 | 49 | 50 | 51 | 52 | 53 | 54 | 55 | 56 | 57 | 58 | 59 | 60 | 61 | 62 | 63 | 64 | 65 | 66 | 67 | 68 | 69 | 70 | 71 | 72 | 73 | 74 | 75 | 76 | 77 | 78 | 79 | 80 | 81 | 82 | 83 | 84 | 85 | 86 | 87 | 88 | 89 | 90 | 91 | 92 | 93 | 94 | 95 | 96 | 97 | 98 | 99 | 100 | 101 | 102 | 103 | 104 | 105 | 106 | 107 | 108 | 109 | 110 | 111 | 112 | 113 | 114 | 115 | 116 | 117 | 118 | 119 | 120 | 121 | 122 | 123 | 124 | 125 | 126 | 127 | 128 | 129 | 130 | 131 | 132 | 133 | 134 | 135 | 136 | 137 | 138 | 139 | 140 | 141 | 142 | 143 | 144 | 145 | 146 | 147 | 148 | 149 | 150 | 151 | 152 | 153 | 154 | 155 | 156 | 157 | 158 | 159 | 160 | 161 | 162 | 163 | 164 | 165 | 166 | 167 | 168 | 169 | 170 | 171 | 172 | 173 | 174 | 175 | 176 | 177 | 178 | 179 | 180 | 181 | 182 | 183 | 184 | 185 | 186 | 187 | 188 | 189 | 190 | 191 | 192 | 193 | 194 | 195 | 196 | 197 | 198 | 199 | 200 | 201 | 202 | 203 | 204 | 205 | 206 | 207 | 208 | 209 | 210 | 211 | 212 | 213 | 214 | 215 | 216 | 217 | 218 | 219 | 220 | 221 | 222 | 223 | 224 | 225 | 226 | 227 | 228 | 229 | 230 | 231 | 232 | 233 | 234 | 235 | 236 | 237 | 238 | 239 | 240 | 241 | 242 | 243 | 244 | 245 | 246 | 247 | 248 | 249 | 250 | 251 | 252 | 253 | 254 | 255 | 256 | 257 | 258 | 259 | 260 | 261 | 262 | 263 | 264 | 265 | 266 | 267 | 268 | 269 | 270 | 271 | 272 | 273 | 274 | 275 | 276 | 277 | 278 | 279 | 280 | 281 | 282 | 283 | 284 | 285 | 286 | 287 | 288 | 289 | 290 | 291 | 292 | 293 | 294 | 295 | 296 | 297 | 298 | 299 | 300 | 301 | 302 | 303 | 304 | 305 | 306 | 307 | 308 | 309 | 310 | 311 | 312 | 313 | 314 | 315 | 316 | 317 | 318 | 319 | 320 | 321 | 322 | 323 | 324 | 325 | 326 | 327 | 328 | 329 | 330 | 331 | 332 | 333 | 334 | 335 | 336 | 337 | 338 | 339 | 340 | 341 | 342 | 343 | 344 | 345 | 346 | 347 | 348 | 349 | 350 | 351 | 352 | 353 | 354 | 355 | 356 | 357 | 358 | 359 | 360 | 361 | 362 | 363 | 364 | 365 | 366 | 367 | 368 | 369 | 370 | 371 | 372 | 373 | 374 | 375 | 376 | 377 | 378 | 379 | 380 | 381 | 382 | 383 | 384 | 385 | 386 | 387 | 388 | 389 | 390 | 391 | 392 | 393 | 394 | 395 | 396 | 397 | 398 | 399 | 400 | 401 | 402 | 403 | 404 | 405 | 406 | 407 | 408 | 409 | 410 | 411 | 412 | 413 | 414 | 415 | 416 | 417 | 418 | 419 | 420 | 421 | 422 | 423 | 424 | 425 | 426 | 427 | 428 | 429 | 430 | 431 | 432 | 433 | 434 | 435 | 436 | 437 | 438 | 439 | 440 | 441 | 442 | 443 | 444 | 445 | 446 | 447 | 448 | 449 | 450 | 451 | 452 | 453 | 454 | 455 | 456 | 457 | 458 | 459 | 460 | 461 | 462 | 463 | 464 | 465 | 466 | 467 | 468 | 469 | 470 | 471 | 472 | 473 | 474 | 475 | 476 | 477 | 478 | 479 | 480 | 481 | 482 | 483 | 484 | 485 | 486 | 487 | 488 | 489 | 490 | 491 | 492 | 493 | 494 | 495 | 496 | 497 | 498 | 499 | 500 | 501 | 502 | 503 | 504 | 505 | 506 | 507 | 508 | 509 | 510 | 511 | 512 | 513 | 514 | 515 | 516 | 517 | 518 | 519 | 520 | 521 | 522 | 523 | 524 | 525 | 526 | 527 | 528 | 529 | 530 | 531 | 532 | 533 | 534 | 535 | 536 | 537 | 538 | 539 | 540 | 541 | 542 | 543 | 544 | 545 | 546 | 547 | 548 | 549 | 550 | 551 | 552 | 553 | 554 | 555 | 556 | 557 | 558 | 559 | 560 | 561 | 562 | 563 | 564 | 565 | 566 | 567 | 568 | 569 | 570 | 571 | 572 | 573 | 574 | 575 | 576 | 577 | 578 | 579 | 580 | 581 | 582 | 583 | 584 | 585 | 586 | 587 | 588 | 589 | 590 | 591 | 592 | 593 | 594 | 595 | 596 | 597 | 598 | 599 | 600 | 601 | 602 | 603 | 604 | 605 | 606 | 607 | 608 | 609 | 610 | 611 | 612 | 613 | 614 | 615 | 616 | 617 | 618 | 619 | 620 | 621 | 622 | 623 | 624 | 625 | 626 | 627 | 628 | 629 | 630 | 631 | 632 | 633 | 634 | 635 | 636 | 637 | 638 | 639 | 640 | 641 | 642 | 643 | 644 | 645 | 646 | 647 | 648 | 649 | 650 | 651 | 652 | 653 | 654 | 655 | 656 | 657 | 658 | 659 | 660 | 661 | 662 | 663 | 664 | 665 | 666 | 667 | 668 | 669 | 670 | 671 | 672 | 673 | 674 | 675 | 676 | 677 | 678 | 679 | 680 | 681 | 682 | 683 | 684 | 685 | 686 | 687 | 688 | 689 | 690 | 691 | 692 | 693 | 694 | 695 | 696 | 697 | 698 | 699 | 700 | 701 | 702 | 703 | 704 | 705 | 706 | 707 | 708 | 709 | 710 | 711 | 712 | 713 | 714 | 715 | 716 | 717 | 718 | 719 | 720 | 721 | 722 | 723 | 724 | 725 | 726 | 727 | 728 | 729 | 730 | 731 | 732 | 733 | 734 | 735 | 736 | 737 | 738 | 739 | 740 | 741 | 742 | 743 | 744 | 745 | 746 | 747 | 748 | 749 | 750 | 751 | 752 | 753 | 754 | 755 | 756 | 757 | 758 | 759 | 760 | 761 | 762 | 763 | 764 | 765 | 766 | 767 | 768 | 769 | 770 | 771 | 772 | 773 | 774 | 775 | 776 | 777 | 778 | 779 | 780 | 781 | 782 | 783 | 784 | 785 | 786 | 787 | 788 | 789 | 790 | 791 | 792 | 793 | 794 | 795 | 796 | 797 | 798 | 799 | 800 | 801 | 802 | 803 | 804 | 805 | 806 | 807 | 808 | 809 | 810 | 811 | 812 | 813 | 814 | 815 | 816 | 817 | 818 | 819 | 820 | 821 | 822 | 823 | 824 | 825 | 826 | 827 | 828 | 829 | 830 | 831 | 832 | 833 | 834 | 835 | 836 | 837 | 838 | 839 | 840 | 841 | 842 | 843 | 844 | 845 | 846 | 847 | 848 | 849 | 850 | 851 | 852 | 853 | 854 | 855 | 856 | 857 | 858 | 859 | 860 | 861 | 862 | 863 | 864 | 865 | 866 | 867 | 868 | 869 | 870 | 871 | 872 | 873 | 874 | 875 | 876 | 877 | 878 | 879 | 880 | 881 | 882 | 883 | 884 | 885 | 886 | 887 | 888 | 889 | 890 | 891 | 892 | 893 | 894 | 895 | 896 | 897 | 898 | 899 | 900 | 901 | 902 | 903 | 904 | 905 | 906 | 907 | 908 | 909 | 910 | 911 | 912 | 913 | 914 | 915 | 916 | 917 | 918 | 919 | 920 | 921 | 922 | 923 | 924 | 925 | 926 | 927 | 928 | 929 | 930 | 931 | 932 | 933 | 934 | 935 | 936 | 937 | 938 | 939 | 940 | 941 | 942 | 943 | 944 | 945 | 946 | 947 | 948 | 949 | 950 | 951 | 952 | 953 | 954 | 955 | 956 | 957 | 958 | 959 | 960 | 961 | 962 | 963 | 964 | 965 | 966 | 967 | 968 | 969 | 970 | 971 | 972 | 973 | 974 | 975 | 976 | 977 | 978 | 979 | 980 | 981 | 982 | 983 | 984 | 985 | 986 | 987 | 988 | 989 | 990 | 991 | 992 | 993 | 994 | 995 | 996 | 997 | 998 | 999 | 1000 | 1001 | 1002 | 1003 | 1004 | 1005 | 1006 | 1007 | 1008 | 1009 | 1010 | 1011 | 1012 | 1013 | 1014 | 1015 | 1016 | 1017 | 1018 | 1019 | 1020 | 1021 | 1022 | 1023 | 1024 | 1025 | 1026 | 1027 | 1028 | 1029 | 1030 | 1031 | 1032 | 1033 | 1034 | 1035 | 1036 | 1037 | 1038 | 1039 | 1040 | 1041 | 1042 | 1043 | 1044 | 1045 | 1046 | 1047 | 1048 | 1049 | 1050 | 1051 | 1052 | 1053 | 1054 | 1055 | 1056 | 1057 | 1058 | 1059 | 1060 | 1061 | 1062 | 1063 | 1064 | 1065 | 1066 | 1067 | 1068 | 1069 | 1070 | 1071 | 1072 | 1073 | 1074 | 1075 | 1076 | 1077 | 1078 | 1079 | 1080 | 1081 | 1082 | 1083 | 1084 | 1085 | 1086 | 1087 | 1088 | 1089 | 1090 | 1091 | 1092 | 1093 | 1094 | 1095 | 1096 | 1097 | 1098 | 1099 | 1100 | 1101 | 1102 | 1103 | 1104 | 1105 | 1106 | 1107 | 1108 | 1109 | 1110 | 1111 | 1112 | 1113 | 1114 | 1115 | 1116 | 1117 | 1118 | 1119 | 1120 | 1121 | 1122 | 1123 | 1124 | 1125 | 1126 | 1127 | 1128 | 1129 | 1130 | 1131 | 1132 | 1133 | 1134 | 1135 | 1136 | 1137 | 1138 | 1139 | 1140 | 1141 | 1142 | 1143 | 1144 | 1145 | 1146 | 1147 | 1148 | 1149 | 1150 | 1151 | 1152 | 1153 | 1154 | 1155 | 1156 | 1157 | 1158 | 1159 | 1160 | 1161 | 1162 | 1163 | 1164 | 1165 | 1166 | 1167 | 1168 | 1169 | 1170 | 1171 | 1172 | 1173 | 1174 | 1175 | 1176 | 1177 | 1178 | 1179 | 1180 | 1181 | 1182 | 1183 | 1184 | 1185 | 1186 | 1187 | 1188 | 1189 | 1190 | 1191 | 1192 | 1193 | 1194 | 1195 | 1196 | 1197 | 1198 | 1199 | 1200 | 1201 | 1202 | 1203 | 1204 | 1205 | 1206 | 1207 | 1208 | 1209 | 1210 | 1211 | 1212 | 1213 | 1214 | 1215 | 1216 | 1217 | 1218 | 1219 | 1220 | 1221 | 1222 | 1223 | 1224 | 1225 | 1226 | 1227 | 1228 | 1229 | 1230 | 1231 | 1232 | 1233 | 1234 | 1235 | 1236 | 1237 | 1238 |
|-----|----|----|----|----|-----|-----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--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297 Logic for terms for indexes 001-043 is on boards 304, 401, 408.

297 Logic for terms for indexes 001-043 is on boards 304, 401, 408.

| Category  | Sub-category | Value |
|---|--------------|-------|
| Logic for<br>examining<br>the<br>relationships<br>between<br>the<br>variables<br>of<br>the<br>model | OSA          | 09    |
|   | OSA          | 10    |
|   | OSA          | 11    |
|   | OSA          | 12    |
|   | OSA          | 13    |
|   | OSA          | 14    |
|   | OSA          | 15    |
|   | OSA          | 16    |
|   | OSA          | 17    |
|   | OSA          | 18    |
| Logic for<br>examining<br>the<br>relationships<br>between<br>the<br>variables<br>of<br>the<br>model | OSA          | 19    |
|   | OSA          | 20    |
|   | OSA          | 21    |
|   | OSA          | 22    |
|   | OSA          | 23    |
|   | OSA          | 24    |
|   | OSA          | 25    |
|   | OSA          | 26    |
|   | OSA          | 27    |
|   | OSA          | 28    |
| Logic for<br>examining<br>the<br>relationships<br>between<br>the<br>variables<br>of<br>the<br>model | OSA          | 29    |
|   | OSA          | 30    |
|   | OSA          | 31    |
|   | OSA          | 32    |
|   | OSA          | 33    |
|   | OSA          | 34    |
|   | OSA          | 35    |
|   | OSA          | 36    |
|   | OSA          | 37    |
|   | OSA          | 38    |
| Logic for<br>examining<br>the<br>relationships<br>between<br>the<br>variables<br>of<br>the<br>model | OSA          | 39    |
|   | OSA          | 40    |
|   | OSA          | 41    |
|   | OSA          | 42    |
|   | OSA          | 43    |
|   | OSA          | 44    |
|   | OSA          | 45    |
|   | OSA          | 46    |
|   | OSA          | 47    |
|   | OSA          | 48    |

298      Logic for terms for indexes 001-015 is on boards 305, 401, 409.

298      Logic for terms for indexes 001-015 is on boards 305, 401, 409.

| Logic for terms | Logic for indexes | Logic for terms | Logic for indexes | Logic for terms | Logic for indexes |
|-----------------|-------------------|-----------------|-------------------|-----------------|-------------------|
| OSA             | E3                | E1              | 1TA               | OSA             | 17                |
| CN6             | CN2               | 1TA             | MNF               | CN6             | 18                |
| E2              | CN3               | 1TA             | MNF               | OSA             | 19                |
| E1              | CN2               | 1TA             | MNF               | OSA             | 20                |
| E3              | 1TA               | MNF             | MNF               | OSA             | 21                |
| E3              | CN4               | 1TA             | MNF               | OSA             | 22                |
| E1              | CN2               | 1TA             | MNF               | OSA             | 23                |
| E2              | CN3               | 1TA             | MNF               | OSA             | 24                |
| E1              | CN4               | CN3             | 1TA               | OSA             | MNF               |
| E3              | CN4               | CN3             | CN2               | OSA             | 17                |
| E2              | CN3               | CN3             | CN2               | OSA             | 18                |
| E1              | CN4               | CN3             | CN2               | OSA             | 19                |
| E3              | CN4               | CN3             | CN2               | OSA             | 20                |
| E2              | CN3               | CN3             | CN2               | OSA             | 21                |
| E1              | CN4               | CN3             | CN2               | OSA             | 22                |
| E3              | CN4               | CN3             | CN2               | OSA             | 23                |
| E2              | CN3               | CN3             | CN2               | OSA             | 24                |
| E1              | CN4               | CN3             | CN2               | OSA             | MNF               |

299 Logic for terms for indexes 001-047 is on boards 307, 401, 409.

299 Logic for terms for indexes 001-047 is on boards 307, 401, 409.

| Logic for terms | Indices 0/4-110 | is on board | 300, 402, 403. |
|-----------------|-----------------|-------------|----------------|
| OSA             | E7              | CN6         | E3             |
| OSA             | 25              | OSA         | E7             |
| MNF             | 26              | •           | •              |
| CN3             | E4              | 1TA         | •              |
| CN5             | E3              | CN3         | •              |
| OSA             | E7              | CN6         | •              |
| •               | •               | OSA         | •              |
| E4              | 1TA             | MNF         | •              |
| E2              | CN4             | E4          | •              |
| E7              | CN6             | 1TA         | •              |
| •               | •               | E1          | •              |
| E4              | 1TA             | •           | •              |
| E2              | CN4             | •           | •              |
| E7              | CN6             | •           | •              |
| MNF             | •               | •           | •              |

300 Logic for terms for indexes 001-043 is on boards 308, 401, 406.

300 Logic for terms for indexes 001-043 is on boards 308, 401, 406.

[illegible]





Tape  
stops  
Marker  
number

|     |  |  |  |  |  |   |  |   |  |  |   |
|-----|--|--|--|--|--|---|--|---|--|--|---|
| 304 | Logic for terms is on boards 313, 314, 402, 407.   | OSA<br>61<br>CN4<br>CN7<br>CN3<br>CN6                                    | E8<br>.<br>CN2<br>CFS<br>.<br>CN2<br>E3                                  | CN7<br>.<br>E4<br>CN5<br>OSA<br>E4<br>E2                           | CFS<br>OSA<br>1TA<br>E2<br>E8<br>1TA<br>E4                       | CN5<br>E8<br>MNF<br>CN4<br>CN7<br>MNF<br>1TA                      | E3<br>CN7<br>62<br>CN3<br>CFS<br>64<br>MNF                             | CN4<br>CFS<br>.<br>E4<br>CN5<br>.<br>65                             | E4<br>CN5<br>.<br>1TA<br>E3<br>.<br>.                            | 1TA<br>E2<br>OSA<br>MNF<br>E1<br>OSA<br>.                        | MNF<br>E1<br>E8<br>63<br>CN4<br>CN7<br>.                            |
| 305 | Logic for terms for indexes 001-055 is on boards 303, 401, 408.<br>Logic for terms for indexes 056-085 is on boards 303, 402, 408.<br>Logic for terms for indexes 086-099 is on boards 304, 402, 408.<br>Logic for terms for indexes 100-120 is on boards 304, 401, 408. | 1SA<br>1TA<br>E1<br>1SA<br>MNF<br>CN4<br>CN7<br>MNF<br>CN3<br>CN6<br>MNF | CN7<br>MNF<br>CN4<br>CN7<br>O3<br>E6<br>CN6<br>.<br>E6<br>CN5<br>.<br>O8 | CN6<br>O1<br>CN3<br>CN6<br>.<br>E8<br>CN5<br>O5<br>E8<br>E3<br>1SA | CN5<br>.<br>E6<br>CN5<br>.<br>1TA<br>E2<br>.<br>1TA<br>E1<br>CN7 | E2<br>.<br>E8<br>E3<br>1SA<br>MNF<br>E1<br>.<br>MNF<br>CN2<br>CN6 | CN4<br>1SA<br>1TA<br>CN4<br>CN7<br>O4<br>CN3<br>1SA<br>O6<br>E6<br>CN5 | CN3<br>CN7<br>MNF<br>CN2<br>CN6<br>.<br>CN2<br>CN7<br>.<br>E8<br>E2 | CN2<br>CN6<br>.<br>E6<br>CN5<br>.<br>E6<br>CN6<br>.<br>1TA<br>E6 | E6<br>CN5<br>.<br>E8<br>E2<br>.<br>E8<br>CN5<br>1SA<br>MNF<br>E8 | E8<br>E3<br>O2<br>1TA<br>E1<br>1SA<br>1TA<br>E3<br>CN7<br>O7<br>1TA |
| 306 | Logic for terms for indexes 001-051 is on boards 304, 401, 408.<br>Logic for terms for indexes 052-110 is on boards 305, 402, 408.   | 1SA<br>MNF<br>CN3<br>CN6<br>11<br>MNF<br>CN2<br>CN6<br>1SA<br>15<br>MNF  | CN7<br>.<br>E7<br>E3<br>1SA<br>12<br>E7<br>E3<br>CN7<br>.<br>.           | CN6<br>.<br>E8<br>CN4<br>CN7<br>.<br>E8<br>CN3<br>CN6<br>.<br>16   | E2<br>O9<br>1TA<br>CN2<br>CN6<br>.<br>1TA<br>E7<br>E3<br>1SA     | CN4<br>1SA<br>MNF<br>E7<br>E2<br>1SA<br>MNF<br>E8<br>E1<br>CN7    | CN3<br>CN7<br>10<br>E8<br>E1<br>CN7<br>.<br>1TA<br>CN2<br>CN6          | CN2<br>CN6<br>1TA<br>CN4<br>CN6<br>13<br>MNF<br>E7<br>E2            | E7<br>E3<br>MNF<br>E7<br>E2<br>.<br>.<br>E8<br>E7                | E8<br>E1<br>1SA<br>.<br>E8<br>E1<br>1SA<br>14<br>1TA<br>E8       | 1TA<br>CN4<br>CN7<br>.<br>1TA<br>CN3<br>CN7<br>.<br>MNF<br>1TA      |



307

Logic for terms for indexes 001-029 is on boards 305, 401, 409.

Logic for terms for indexes 030-059 is on boards 306, 401, 409.

Logic for terms for indexes 060-120 is on boards 306, 402, 409.

|     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 1SA | E4  | 1TA | CN7 | CN5 | E2  | CN4 | CN3 | 1SA |
| E8  | 1TA | MNF | 17  | E6  | E7  | E8  | E3  | 1SA |
| E3  | E1  | CN4 | CN3 | E7  | CN5 | E3  | E3  | E8  |
| .   | 18  | 1SA | E4  | 19  | E7  | E8  | E2  | 21  |
| E7  | E8  | 1TA | MNF | E6  | CN5 | E2  | E2  | E1  |
| CN5 | E2  | E1  | CN4 | CN7 | E7  | E3  | E3  | 1SA |
| .   | .   | 1SA | E4  | 1TA | E6  | E7  | E7  | 1TA |
| E6  | E7  | E8  | CN3 | MNF | E6  | E3  | E3  | E1  |
| CN7 | CN5 | E3  | 1SA | E4  | CN7 | E3  | E3  | 1SA |
| .   | E8  | 1TA | MNF | 23  | E7  | E3  | E3  | 1SA |
| E7  | E2  | E6  | E7  | E8  | 1TA | E7  | E7  | 1TA |
| CN5 | E2  | E6  | E7  | E8  | 1TA | E7  | E7  | 1TA |

308

Logic for terms for indexes 001-047 is on boards 307, 401, 409.

Logic for terms for indexes 048-071 is on boards 307, 402, 409.

Logic for terms for indexes 072-100 is on boards 308, 402, 409.

|     |     |     |     |     |     |     |    |     |
|-----|-----|-----|-----|-----|-----|-----|----|-----|
| 1SA | CN7 | E2  | CN4 | 1SA | CN7 | E3  | E6 | 1SA |
| E8  | 1TA | MNF | 26  | 1TA | E8  | 27  | E1 | 1SA |
| CN2 | E6  | E8  | 1TA | E6  | CN3 | 1TA | E6 | MNF |
| E2  | E1  | CN4 | E6  | E1  | CN7 | CN2 | E6 | E6  |
| 1SA | CN7 | E2  | 1SA | 1SA | 1SA | CN7 | E3 | CN3 |
| 29  | .   | 30  | 31  | .   | 32  | 32  | 32 | 1SA |
| MNF | 1TA | MNF | MNF | .   | .   | .   | .  | E6  |
| E8  | 1TA | MNF | MNF | .   | .   | .   | .  | E1  |

309

Logic for terms for indexes 001-055 is on boards 308, 401, 406.

Logic for terms for indexes 056-110 is on boards 309, 402, 406.

|     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 1SA | CFS | MNF | CN6 | CN5 | E2  | CN4 | CN3 | CFS |
| 1TA | MNF | CN3 | E7  | E6  | 1TA | 1TA | MNF | E3  |
| E1  | CN4 | CN3 | CN5 | E3  | CFS | CFS | CN2 | CN6 |
| 1SA | CFS | CN6 | E6  | 1TA | MNF | 36  | E7  | CN5 |
| MNF | E7  | E2  | E2  | 1SA | CN3 | CN2 | CN2 | CN6 |
| CN4 | CN5 | E7  | 37  | 38  | E7  | E6  | E6  | E2  |
| CN6 | E6  | E2  | MNF | CN2 | CN6 | 1TA | 1TA | E7  |
| .   | E3  | 1TA | E1  | 1SA | CFS | E6  | E6  | E2  |
| E6  | E1  | 1SA | 38  | E7  | CN5 | E7  | E7  | E2  |
| E3  | 1SA | CFS | E1  | E2  | CN6 | E2  | E2  | E2  |

Tape Marker  
stops number

310

Logic for terms for indexes 001-029 is on boards 309, 401, 406.

Logic for terms for indexes 030-059 is on boards 310, 401, 406.

Logic for terms for indexes 060-120 is on boards 310, 402, 406.

|     |     |     |     |     |     |     |     |     |    |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|----|-----|-----|-----|-----|-----|-----|-----|-----|
| 1SA | E4  | 1TA | CFS | CN6 | E2  | CN4 | CN3 | 1SA | E7 | CN6 | E4  | 1TA | CN2 | E6  | CFS | E7  | CN6 |
| E8  | 1TA | CN4 | MNF | 41  | E6  | E7  | E8  | 1SA | E3 | E3  | 1TA | CN4 | E4  | MNF | E6  | CFS | E7  |
| E3  | E1  | CN4 | CN3 | E4  | CFS | CN6 | E3  | E3  | E3 | E3  | 1TA | CN4 | E4  | MNF | E6  | CFS | E7  |
| E7  | E8  | 1TA | MNF | CN4 | 43  | E7  | E8  | E3  | E3 | E3  | 1TA | CN4 | E4  | MNF | E6  | CFS | E7  |
| CN6 | E2  | E1  | CN4 | E6  | CFS | CN6 | E2  | E3  | E3 | E3  | 1TA | CN4 | E4  | MNF | E6  | CFS | E7  |
| E6  | E7  | 1SA | E8  | E4  | CFS | CN6 | E2  | E3  | E3 | E3  | 1TA | CN4 | E4  | MNF | E6  | CFS | E7  |
| CFS | CN6 | E3  | CN3 | 1TA | MNF | E7  | E4  | E3  | E3 | E3  | 1TA | CN4 | E4  | MNF | E6  | CFS | E7  |
| E7  | E8  | 1TA | 1TA | MNF | 47  | E8  | E7  | E3  | E3 | E3  | 1TA | CN4 | E4  | MNF | E6  | CFS | E7  |
| CN6 | E2  | E6  | E7  | E8  | E8  | 1TA | MNF | E3  | E3 | E3  | 1TA | CN4 | E4  | MNF | E6  | CFS | E7  |

311

Logic for terms for indexes 001-051 is on boards 311, 401, 407.

Logic for terms for indexes 052-077 is on boards 311, 402, 407.

Logic for terms for indexes 078-110 is on boards 312, 402, 407.

|     |     |     |     |     |     |     |     |     |     |     |    |     |    |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----|-----|----|-----|-----|-----|-----|
| 1SA | CN6 | CN5 | E2  | CN4 | CN3 | CN2 | CN5 | 1TA | E7  | CN3 | E3 | 1TA | E8 | 1SA | CN4 | CN6 | 1TA |
| MNF | E7  | E8  | 49  | 1SA | CN6 | CN5 | CN5 | 1TA | E3  | CN3 | E3 | 1TA | E8 | 1SA | CN4 | CN6 | 1TA |
| CN3 | E3  | CN4 | 1TA | MNF | 50  | E7  | E7  | 1TA | MNF | E7  | E3 | 1TA | E8 | 1SA | CN4 | CN6 | 1TA |
| CN5 | E7  | CN6 | CN5 | E2  | E1  | CN4 | CN5 | 1TA | E7  | E2  | E2 | 1TA | E8 | 1SA | CN4 | CN6 | 1TA |
| E7  | 1SA | E8  | 1TA | 1SA | CN6 | CN5 | CN5 | 1TA | E7  | E2  | E2 | 1TA | E8 | 1SA | CN4 | CN6 | 1TA |
| MNF | 52  | E8  | 1TA | MNF | 1TA | CN5 | CN5 | 1TA | E7  | E2  | E2 | 1TA | E8 | 1SA | CN4 | CN6 | 1TA |
| CN2 | E7  | CN3 | E7  | E8  | CN6 | CN5 | CN5 | 1TA | E7  | E2  | E2 | 1TA | E8 | 1SA | CN4 | CN6 | 1TA |
| CN5 | E3  | CN5 | E3  | E1  | CN6 | CN5 | CN5 | 1TA | E7  | E2  | E2 | 1TA | E8 | 1SA | CN4 | CN6 | 1TA |
| 1SA | CN6 | CN5 | E3  | E1  | CN6 | CN5 | CN5 | 1TA | E7  | E2  | E2 | 1TA | E8 | 1SA | CN4 | CN6 | 1TA |
| 55  | E7  | E8  | 1SA | CN6 | CN5 | CN5 | CN5 | 1TA | E7  | E2  | E2 | 1TA | E8 | 1SA | CN4 | CN6 | 1TA |
| MNF | E7  | E8  | 1SA | CN6 | CN5 | CN5 | CN5 | 1TA | E7  | E2  | E2 | 1TA | E8 | 1SA | CN4 | CN6 | 1TA |

312

Logic for terms for indexes 001-047 is on boards 312, 401, 407.

Logic for terms for indexes 048-092 is on boards 313, 402, 407.

Logic for terms for indexes 093-110 is on board 314.

|     |     |     |     |     |     |     |     |     |    |     |    |     |    |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|----|-----|----|-----|----|-----|-----|-----|-----|
| 1SA | CN6 | CN5 | E2  | CN4 | CN3 | CN2 | CN5 | 1TA | E7 | CN3 | E3 | 1TA | E8 | 1SA | CN4 | CN6 | 1TA |
| E6  | 1TA | CN5 | MNF | 58  | MNF | 59  | MNF | 1TA | E3 | CN3 | E3 | 1TA | E8 | 1SA | CN4 | CN6 | 1TA |
| CN2 | E7  | E6  | E6  | 1TA | E6  | 1TA | 1TA | 1TA | E3 | CN3 | E3 | 1TA | E8 | 1SA | CN4 | CN6 | 1TA |
| E2  | E1  | CN4 | CN4 | E7  | E6  | 1TA | 1TA | 1TA | E3 | CN3 | E3 | 1TA | E8 | 1SA | CN4 | CN6 | 1TA |
| 1SA | CN6 | E2  | E2  | 1SA | CN6 | 1SA | 1SA | 1SA | E3 | CN3 | E3 | 1TA | E8 | 1SA | CN4 | CN6 | 1TA |
| 61  | 62  | E2  | E2  | 1SA | CN6 | 1SA | 1SA | 1SA | E3 | CN3 | E3 | 1TA | E8 | 1SA | CN4 | CN6 | 1TA |
| MNF | 63  | 64  | 65  | 66  | 67  | 68  | 69  | 70  | E3 | CN3 | E3 | 1TA | E8 | 1SA | CN4 | CN6 | 1TA |
| E6  | 1TA | 1TA | 1TA | 1TA | 1TA | 1TA | 1TA | 1TA | E3 | CN3 | E3 | 1TA | E8 | 1SA | CN4 | CN6 | 1TA |
| 1TA | 1TA | 1TA | 1TA | 1TA | 1TA | 1TA | 1TA | 1TA | E3 | CN3 | E3 | 1TA | E8 | 1SA | CN4 | CN6 | 1TA |



**Read switch and test.**

|                    |           |      |
|--------------------|-----------|------|
| MNF<br>CNL3<br>E2- | 05        | CNL4 |
| CNL3               | 13        | CNL4 |
| OTA<br>CNL3        | MNF<br>21 | CNL4 |
| CNL3               | 29        | CNL4 |

## Logic for terms for indexing

|            |             |           |      |
|------------|-------------|-----------|------|
| OTA<br>36  | MNF<br>CNL3 | 37        | CNL4 |
| E8<br>44   | OTA<br>CNL3 | MNF<br>45 | CNL4 |
| MNF<br>52  | CNL3        | 53        | CNL4 |
| 60<br>CNUO | CNL3        | 61        | CNL4 |



## Tape stops Marker number

315

Logic for terms for indexes 001-006 is on boards 303, 304, 408.

Logic for terms for indexes 007-036 is on boards 304, 305.

Logic for terms for indexes 037-066 is on boards 305, 306.

Logic for terms for indexes 067-120 is on boards 307, 308.

|     |      |    |      |     |      |      |      |    |      |
|-----|------|----|------|-----|------|------|------|----|------|
| OSA | E4   | E3 | E1   | OTA | MNF  | 04   | CNU3 | 05 | CNU4 |
| 01  | CNU0 | 02 | CNU1 | 03  | CNU2 | CNU0 | E7   | .  | .    |
| 06  | CNU5 | 07 | CNS4 | 08  | CNS5 | .    | .    | .  | .    |
| OSA | E4   | E2 | CN2  | OTA | MNF  | 12   | CNU3 | 13 | CNU4 |
| 09  | CNU0 | 10 | CNU1 | 11  | CNU2 | .    | .    | .  | .    |
| 14  | CNU5 | 15 | CNS4 | 16  | CNS5 | .    | .    | .  | .    |
| OSA | E4   | E2 | CN3  | OTA | MNF  | 20   | CNU3 | 21 | CNU4 |
| 17  | CNU0 | 18 | CNU1 | 19  | CNU2 | .    | .    | .  | .    |
| 22  | CNU5 | 23 | CNS4 | 24  | CNS5 | .    | .    | .  | .    |
| OSA | E4   | E3 | CN3  | CN2 | OTA  | MNF  | .    | .  | .    |
| 25  | CNU0 | 26 | CNU1 | 27  | CNU2 | 28   | CNU3 | 29 | CNU4 |
| 30  | CNU5 | 31 | CNS4 | 32  | CNS5 | .    | .    | .  | .    |

316

Logic for terms for indexes 001-006 is on boards 308, 309.

Logic for terms for indexes 007-038 is on boards 309, 310.

Logic for terms for indexes 039-067 is on boards 311, 312.

Logic for terms for indexes 068-099 is on boards 312, 313.

Logic for terms for indexes 100-160 is on board 314.

|     |      |     |      |      |      |     |      |      |      |
|-----|------|-----|------|------|------|-----|------|------|------|
| OSA | E4   | E3  | CN4  | OTA  | MNF  | 36  | CNU3 | 37   | CNU4 |
| 33  | CNU0 | 34  | CNU1 | 35   | CNU2 | .   | .    | .    | .    |
| 38  | CNU5 | 39  | CNS4 | 40   | CNS5 | OTA | MNF  | .    | .    |
| OSA | E4   | E2  | E1   | CN4  | CN2  | 44  | CNU3 | 45   | CNU4 |
| 41  | CNU0 | 42  | CNU1 | 43   | CNU2 | .   | .    | .    | .    |
| 46  | CNU5 | 47  | CNS4 | 48   | CNS5 | .   | .    | .    | .    |
| OSA | E4   | E2  | CN4  | CN3  | OTA  | MNF | CNU3 | 53   | CNU4 |
| 49  | CNU0 | 50  | CNU1 | 51   | CNU2 | 52  | .    | .    | .    |
| 54  | CNU5 | 55  | CNS4 | 56   | CNS5 | .   | .    | .    | .    |
| OSA | E4   | E3  | E1   | CN4  | CN3  | CN2 | OTA  | MNF  | .    |
| 57  | CNU0 | 58  | CNU1 | 59   | CNU2 | 60  | CNU3 | 61   | CNU5 |
| 62  | CNU5 | 63  | CNS4 | 64   | CNS5 | .   | .    | .    | .    |
| OSA | E1   | CN6 | E6   | E7   | E8   | OTA | MNF  | CNX  | .    |
| 62  | CNS5 | E8  | CN7  | EM5  | 1SF  | CN6 | OSF  | CN7  | .    |
| OSA | MNF  | CNX | CN7  | CNL7 | EM5  | .   | .    | .    | .    |
| 62  | E4   | CN7 | CN6  | OTA  | MNF  | CNX | EM6  | CNL7 | EM5  |



317

Logic for terms for indexes 001-012 is on boards 314, 401, 402.

Logic for terms for indexes 013-072 is on board 401.

Logic for terms for indexes 073-110 is on boards 401, 402.

Logic for terms for indexes 111-150 is on board 401.

|      |      |      |      |      |     |     |     |      |      |
|------|------|------|------|------|-----|-----|-----|------|------|
| 1SA  | CN7  | CN6  | CN5  | E6   | E8  | TSF | CN4 | CN3  | CN2  |
| OTA  | MNF  | CNLO | EM5  | OSF  | E2  | OSF | CN4 | CN4  | CN2  |
| CNLO | CN4- | CNLO | EM4  | CNX  | EM6 | OSF | CN4 | OTA  | MNF  |
| OTA  | MNF  | CNLO | EM3- | CNLO | EM3 | OSF | CN3 | 1SF  | CN3  |
| 1SA  | CN7  | CN6  | CN2- | CNLO | EM2 | OSF | CN4 | 1SF  | 1SF  |
| OTA  | MNF  | CN6  | CN5  | E6   | E8  | OSF | CN4 | E3   | E1   |
| OTA  | MNF  | CNLO | CN3- | CNLO | EM4 | OSF | OTA | CN2  | CN1  |
| CN4- | CNLO | CNLO | CN2  | 1SF  | CN2 | CN4 | CN2 | MNF  | CNLO |
| 1SA  | CN7  | EM3  | CN5  | E6   | E8  | OSF | E3  | CN2  | OTA  |
| MNF  | CNLO | CN6  | CNLO | EM2  | OSF | CN4 | CN3 | OTA  | MNF  |
| CNLO | CN2  | CN4- | TSF  | CN3  | CN2 | OTA | MNF | CNLO | CN2- |
| 1SA  | CN7  | CN6  | CN5  | E6   | E8  | OSF | E2  | E1   | OTA  |
| MNF  | CNLO | CN4- | CN3  | OSF  | CN4 | CN3 | OTA | MNF  | CNLO |
| CN3  | CNLO | 1SF  | CN3  | OSF  | CN2 | OTA | MNF | CNLO | CN2  |

318

Logic for terms is on board 402.

|      |      |      |      |     |     |      |      |      |      |
|------|------|------|------|-----|-----|------|------|------|------|
| 1SA  | CN7  | CN6  | CN5  | E6  | E8  | CN2  | CN4  | CN3  | CN2  |
| OTA  | MNF  | CNLO | CN2- | CN4 | OSF | OTA  | CN4  | MNF  | CN3  |
| CNLO | CN4  | CNLO | TSF  | E6  | CN3 | OTA  | CN4  | CN3- | MNF  |
| 1SA  | CN7  | CN6  | CN5  | E6  | CN3 | OTA  | E3   | CN3- | CN2  |
| CNLO | CN3- | CNLO | OSF  | CN3 | CN2 | CNLO | MNF  | CN2  | CN2  |
| 1SF  | CN2  | CN6  | CN4  | OTA | EMF | CNLO | CN4  | OTA  | OTA  |
| 1SA  | CN7  | CN6  | CN5  | E6  | CN2 | CNLO | E3   | CNLO | CNLO |
| MNF  | CNLO | CN2- | CN3  | OSF | CN4 | CNLO | OTA  | CNLO | CNLO |
| CN3  | CN7  | 1SF  | CN5  | OSF | EMF | CNLO | CNLO | CNLO | CNLO |
| 1SA  | CN7  | CN6  | CN3  | E6  | CN2 | CNLO | CNLO | CNLO | CNLO |
| MNF  | CNLO | CN2  | CN5  | 1SF | CN2 | CNLO | CNLO | CNLO | CNLO |
| CNLO | CN3  | CN2  | TSF  | CN3 | OSF | CNLO | CNLO | CNLO | CNLO |
| CN4  | CN3  | CN2  | CN3  | CN3 | OSF | CNLO | CNLO | CNLO | CNLO |

319

320

|  |      |     |     |     |      |     |     |
|--|------|-----|-----|-----|------|-----|-----|
| Logic for terms for indexes 001-034 is on board 406. | E2   | CFS | .   | OSF | E4   | E6  | E7  |
| Logic for terms for indexes 035-085 is on board 407. | CNU5 | 1SF | CN7 | CN6 | MNF  | CFS | CN1 |
| Logic for terms for indexes 086-120 is on board 314. | 1SA  | CN5 | OTA | MNF | CNU5 | OTA | MN1 |
|  | .    | E2  | CN5 | E7  | E8   |     | OT7 |
|  | CNU5 | OSF | CN7 | OTA | MNF  |     | CN1 |
|  | 1SA  | OSF | OTA | MNF | CNS4 |     | CF1 |
|  | OSF  | E2  | .   | E7  | E6   |     | OT7 |
|  | OSF  | CN6 | CN7 | OTA | MNF  |     | CN1 |
|  | OSA  | E4  | CN7 | CN6 | OTA  |     | MN1 |
|  | E3   | E2  | OSF | CN6 | OTA  |     | MN1 |
|  | CN6  | OSF | CN7 | OTA | MNF  |     | CN1 |

|      |      |      |      |
|------|------|------|------|
| CN6  | OTA  | MNF  | CNU0 |
| CN5  | 1SF  | CN6  | OTA  |
| CN5  | OSF  | CN6  | 1SF  |
| E6   | .    | .    | .    |
| OTA  | MNF  | CNU1 | CN7- |
| CN5  | OTA  | MNF  | CNU1 |
| OTA  | MNF  | CNU1 | CN6- |
| E8   | CN7  | OTA  | MNF  |
| CN6  | OTA  | MNF  | CNU2 |
| MNF  | CNU2 | CN7- | .    |
| MNF  | CNU3 | CN7- | .    |
| CN5  | OTA  | MNF  | CNU4 |
| OTA  | MNF  | CNU4 | CN7  |
| CNU4 | CN6- | E8   | OSF  |
| .    | 1SF  | .    | CN5  |
| CN5  | CFS  | .    | .    |

|      |      |         |      |     |
|------|------|---------|------|-----|
| E8   | CN6  | OTA     | MNF  | MNF |
| OTA  | MNF  | CNU5    | CN6- | CN7 |
| CNU5 | CN6- | .       | CNS4 | CN7 |
| MNF  | CNS4 | CN6-1SF | .    | .   |
| CN7  | .    | CN6-    | CNS5 | .   |
| MNF  | CNS5 | .       | EM6  | 1SF |
| CN7  | EM6  | .       | CN6  | 1SF |
| CNX  | CN6  | .       | .    | .   |
| CNX  | .    | .       | .    | .   |
| CN7  | .    | .       | .    | .   |





## 323

|    |     |    |     |       |
|----|-----|----|-----|-------|
|    | .   | :  | .   | .     |
|    |     | 19 | .   | 1TA   |
|    |     |    |     | K CP4 |
|    | .   | 18 | .   |       |
|    |     |    | MPF |       |
|    |     |    | MPF |       |
|    |     |    | K   | CP3   |
|    |     |    |     | E1    |
| 17 | .   |    |     | .     |
|    | MPF |    |     |       |
|    | 1TA |    |     |       |
|    | 1TA |    |     |       |
|    | CP2 |    |     |       |
|    | CP4 |    |     |       |
|    | E3  |    |     |       |

|     |     |     |
|-----|-----|-----|
| K   | 1TA | MPF |
| E2  | CP2 | E4  |
| E7  | CP6 | CP5 |
| •   | •   | 27  |
| E4  | K   | 1TA |
| CP5 | E3  | CP4 |
| OSA | E7  | CP6 |
| 1TA | MPF | •   |
| CP4 | CP3 | E4  |
| E7  | CP6 | CP5 |
| 1TA | MPF | •   |
| 32  | •   | •   |

|     |     |     |
|-----|-----|-----|
| 1TA | MPF | .   |
| E4  | K   | 1TA |
| E2  | E1  | CP3 |
| OSA | E8  | CP7 |
| 36  | .   | .   |
| 1TA | MPF | 37  |
| CP4 | CP2 | E4  |
| E8  | CP7 | E2  |
| .   | .   | OSA |
| E4  | K   | 1TA |
| .   | .   | 40  |



326

Logic for terms for indexes 001-020 is on boards 309, 316, 403.

Logic for terms for indexes 021-050 is on boards 310, 316, 403.

Logic for terms for indexes 051-110 is on boards 310, 316, 404.

|     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| OSA | CP5 | CP7 | E3  | CP5 | E1  | CP7 | E2  | CP5 | CP7 | 1TA |
| .   | 41  | OSA | 42  | CP7 | OSA | CP5 | 43  | MPF | .   | MPF |
| K   | 1TA | MPF | .   | CP2 | 1TA | CP4 | MPF | K   | CP5 | 45  |
| E3  | CP3 | CP2 | K   | CP7 | CP4 | CP7 | E2  | CP5 | CP2 | K   |
| OSA | CP5 | CP7 | E3  | CP5 | CP4 | CP7 | CP5 | CP5 | CP7 | E2  |
| 1TA | MPF | .   | CP5 | 46  | MPF | CP2 | CP5 | CP5 | CP7 | OSA |
| CP4 | CP3 | K   | 1TA | CP3 | CP2 | CP2 | CP5 | CP5 | 1TA | MPF |
| E3  | E1  | CP4 | CP3 | CP3 | CP2 | CP2 | 48  | K   | .   | .   |

327

Logic for terms for indexes 001-051 is on boards 311, 314, 403.

Logic for terms for indexes 052-120 is on boards 311, 314, 404.

|      |     |     |      |     |     |      |      |     |      |
|------|-----|-----|------|-----|-----|------|------|-----|------|
| OSA  | E6  | CP7 | CPFS | E3  | E6  | CP7  | CPFS | E4  | CPFS |
| K    | 49  | MPF | OSA  | 50  | CP7 | CP7  | CPFS | OSA | MPF  |
| E2   | 1TA | CP3 | E4   | K   | 1TA | CP3  | MPF  | CP2 | CP7  |
| OSA  | E6  | CP7 | CPFS | E3  | CP3 | E6   | CPFS | CP2 | CP7  |
| MPF  | 52  | 1TA | MPF  | OSA | E4  | CPFS | CP5  | CP2 | CP7  |
| E4   | K   | E1  | CP4  | 53  | CP2 | CP7  | CP5  | CP2 | CP7  |
| CPFS | E2  | OSA | CP4  | CP2 | CP7 | CP7  | CP5  | CP2 | CP7  |
| .    | 54  | MPF | 55   | CP3 | CP2 | CP2  | CP5  | CP2 | CP7  |
| K    | 1TA | CP4 | CP3  | CP2 | CP2 | CP2  | CP5  | CP2 | CP7  |
| E3   | E1  | CP4 | CP3  | CP2 | CP2 | CP2  | CP5  | CP2 | CP7  |

328

Logic for terms is on boards 312, 314, 403.

Logic for terms is on boards 312, 314, 403.

|     |      |     |      |     |     |     |      |    |      |
|-----|------|-----|------|-----|-----|-----|------|----|------|
| OSA | E8   | CP7 | CPFS | CP5 | E1  | CP7 | CPFS | E4 | CPFS |
| MPF | 57   | CP7 | CPFS | CP5 | E1  | CP7 | CPFS | E4 | CPFS |
| CP2 | E4   | K   | 1TA  | MPF | E1  | CP7 | CPFS | E4 | CPFS |
| CP7 | CPFS | CP5 | E2   | CP3 | CP7 | CP7 | CPFS | E4 | CPFS |
| 59  | E4   | K   | OSA  | CP3 | CP7 | CP7 | CPFS | E4 | CPFS |
| CP2 | E4   | CP4 | 1TA  | CP3 | CP7 | CP7 | CPFS | E4 | CPFS |

329

Logic for terms is on boards 313, 314, 404.

Logic for terms is on boards 313, 314, 404.

|     |     |     |      |     |     |     |      |    |      |
|-----|-----|-----|------|-----|-----|-----|------|----|------|
| OSA | E8  | CP7 | CPFS | CP5 | E1  | CP7 | CPFS | E4 | CPFS |
| MPF | 61  | CP7 | CPFS | CP5 | E1  | CP7 | CPFS | E4 | CPFS |
| E1  | CP4 | CP2 | E4   | CP5 | E1  | CP7 | CPFS | E4 | CPFS |
| OSA | E8  | CP7 | CPFS | CP5 | E1  | CP7 | CPFS | E4 | CPFS |
| 1TA | MPF | 63  | CP3  | CP2 | CP7 | CP7 | CPFS | E4 | CPFS |
| E3  | E1  | CP4 | CP3  | CP2 | CP7 | CP7 | CPFS | E4 | CPFS |
| MPF | 65  | CP4 | CP7  | CP2 | CP7 | CP7 | CPFS | E4 | CPFS |

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|     |     |     |
|-----|-----|-----|
| CP2 | E6  | E8  |
| CP6 | CP5 | E3  |
| E6  | .   | 02  |
| CP5 | E8  | 1TA |
| .   | E2  | E1  |
| E6  | .   | 1SA |
| CP6 | E8  | 1TA |
| .   | CP5 | E3  |
| 1TA | 1SA | CP7 |
| E6  | MPF | 07  |
|     | E8  | 1TA |
|     | .   | .   |

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|     |     |     |
|-----|-----|-----|
| E7  | E8  | 1TA |
| E3  | E1  | CP4 |
| MPF | 1SA | CP7 |
| E7  | E8  | 1TA |
| E2  | E1  | CP3 |
| .   | 1SA | CP7 |
| .   | 14  | .   |
| E8  | 1TA | MPF |
| E7  | E8  | 1TA |
| .   | .   | .   |

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|     |     |     |
|-----|-----|-----|
| CP2 | E6  | E7  |
| E4  | CP7 | CP5 |
| 1TA | MPF | .   |
| CP4 | CP2 | E6  |
| 1SA | MPF | 20  |
| E1  | CP3 | CP2 |
| .   | 1SA | E4  |
| 1TA | MPF | 22  |
| E1  | CP2 | E6  |
| 1SA | E4  | CP7 |
| 24  | .   | .   |



333

Logic for terms for indexes 001-023 is on boards 307, 403, 405.

Logic for terms for indexes 024-071 is on boards 307, 404, 405.

Logic for terms for indexes 072-100 is on boards 308, 404, 405.

|     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|
| ISA | CP7 | E2  | CP4 | CP3 | CP2 | E6  |
| .   | 25  | MPF | ISA | CP7 | E3  | ISA |
| CP2 | E6  | E8  | 26  | MPF | 27  | MPF |
| E2  | E1  | CP4 | ISA | E8  | ISA | E6  |
| ISA | CP7 | E2  | E1  | CP3 | CP2 | CP3 |
| 29  | .   | .   | ISA | CP7 | E3  | E3  |
| MPF | 30  | MPF | 31  | ISA | CP7 | ISA |
| E8  | ISA | MPF | .   | .   | 32  | .   |
| E8  | ISA | MPF | .   | .   | .   | .   |

|     |     |     |     |    |     |     |     |     |   |
|-----|-----|-----|-----|----|-----|-----|-----|-----|---|
| E8  | CP4 | CP7 | .   | 28 | E8  | E6  | E1  | CP7 | . |
| 1TA | CP3 | E3  | ISA | .  | 1TA | E8  | CP2 | E2  | . |
| MPF | E6  | CP4 | CP7 | .  | MPF | 1TA | E6  | E6  | . |

334

Logic for terms for indexes 001-055 is on boards 308, 316, 403.

Logic for terms for indexes 056-110 is on boards 309, 316, 404.

|     |      |     |     |      |      |      |
|-----|------|-----|-----|------|------|------|
| ISA | CP6  | CP3 | CP5 | E2   | CP4  | CP3  |
| 1TA | MPF  | 33  | E7  | ISA  | CPFS | CPFS |
| E1  | CP4  | CP3 | E6  | 1TA  | MPF  | MPF  |
| ISA | CPFS | CP6 | E3  | CP4  | CP2  | CP2  |
| MPF | 35   | E6  | 1TA | CPFS | CP6  | CP6  |
| CP4 | E7   | E2  | E1  | MPF  | 36   | .    |
| CP6 | CP5  | CP5 | ISA | CP3  | CP2  | E7   |
| .   | 37   | MPF | 38  | CPFS | CP6  | ISA  |
| E6  | 1TA  | CP2 | E7  | E6   | 1TA  | MPF  |
| E3  | E1   | CP6 | CP5 | E2   | E7   | E6   |
| ISA | CPFS | .   | .   | .    | .    | .    |

|     |     |    |     |    |      |     |      |     |     |
|-----|-----|----|-----|----|------|-----|------|-----|-----|
| CP2 | CP6 | E7 | CP5 | .  | E6   | E3  | CPFS | .   | 1TA |
| E6  | E3  | 34 | 1TA | E1 | CPFS | MPF | E7   | CP5 | 40  |

335

Logic for terms for indexes 001-029 is on boards 309, 316, 403.

Logic for terms for indexes 030-049 is on boards 310, 316, 403.

Logic for terms for indexes 060-120 is on boards 310, 316, 404.

|      |     |      |     |      |     |     |
|------|-----|------|-----|------|-----|-----|
| ISA  | E4  | CPFS | CP6 | E2   | CP4 | CP3 |
| E8   | 1TA | MPF  | 41  | E6   | E7  | ISA |
| E3   | E1  | CP4  | CP3 | CPFS | CP6 | E3  |
| .    | 42  | ISA  | E4  | 43   | .   | .   |
| E7   | E8  | 1TA  | MPF | E6   | E7  | E8  |
| CP6  | E2  | E1   | CP4 | CPFS | CP6 | E2  |
| .    | .   | ISA  | E4  | MPF  | 45  | 45  |
| E6   | E7  | E8   | 1TA | E6   | E7  | E8  |
| CPFS | CP6 | E3   | CP3 | CPFS | CP6 | E3  |
| .    | .   | ISA  | E4  | 47   | .   | .   |
| E7   | E8  | 1TA  | MPF | E8   | 1TA | MPF |
| CP6  | E2  | E6   | .   | .    | .   | .   |

|     |      |     |     |      |     |     |     |     |    |
|-----|------|-----|-----|------|-----|-----|-----|-----|----|
| CP2 | E4   | 1TA | CP4 | 1TA  | E1  | 1TA | E1  | ISA | 48 |
| E6  | CPFS | MPF | CP2 | E4   | MPF | CP3 | ISA | MPF | .  |
| E7  | CP6  | .   | E6  | CPFS | 44  | CP2 | E4  | 46  | E6 |



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|     |     |     |
|-----|-----|-----|
| E7  | E8  | 1TA |
| E3  | E1  | CP4 |
| •   | 1SA | CP6 |
| MPF | •   | 51  |
| E7  | E8  | 1TA |
| E2  | E1  | CP3 |
| •   | 1SA | CP6 |
| •   | 54  | •   |
| E8  | 1TA | MPF |
| E7  | E8  | 1TA |
| •   | •   | •   |

Logic for terms for indexes 001-047 is on boards 312, 314, 403.  
 Logic for terms for indexes 048-092 is on boards 313, 314, 404.  
 Logic for terms for indexes 093-110 is on board 314

|     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| CP6 | E2  | CP4 | CP3 | CP2 | E7  | E6  | 1TA | MPF |
| 57  | MPF | 1SA | CP6 | E3  | E1  | CP4 | CP3 | E7  |
| 1TA | E6  | 58  | MPF | 59  | 1SA | CP6 | E3  | CP4 |
| E7  | CP4 | 1TA | E6  | 1TA | MPF | 60  | 1SA | CP6 |
| E1  | E2  | E7  | CP3 | CP2 | E7  | E6  | 1TA | MPF |
| CP6 | E2  | E1  | CP6 | E3  | CP3 | E7  | E6  | 1TA |
| 62  | 63  | 64  | 1SA | CP6 | E3  | E1  | E6  | MPF |
| 1TA | MPF | 65  | 66  | 67  | 1SA | CP6 | E6  | 1TA |
| 1TA | MPF | 68  | 69  | 70  | 1SA | E6  | E6  | E7  |
| MPF | 71  | 72  | 73  | 74  | 75  | 76  | 77  | E6  |

Read switch and test.  
CP program channel.  
Logic for terms for indexes 001-008 is on boards 303, 304, 404.  
Logic for terms for indexes 009-037 is on boards 304, 305.  
Logic for terms for indexes 038-069 is on boards 305, 306.  
Logic for terms for indexes 070-120 is on boards 30, 308.

| CP7  | CP6 | CP5  | F6 | OTA  | MPF  | 05  | CPL4 |
|------|-----|------|----|------|------|-----|------|
| CPL0 | 02  | CPL1 | 03 | CPL2 | CPL3 |     |      |
| CPL5 | 07  | CPL6 | 08 | CPL7 | E2-  |     |      |
| CP7  | CP6 | E7   | E8 | OTA  | MPF  |     |      |
| CPL0 | 10  | CPL1 | 11 | CPL2 | CPL3 | 13  | CPL4 |
| CPL5 | 15  | CPL6 | 16 | CPL7 |      |     |      |
| CP7  | CP5 | E4   | E6 | E7   | OTA  | MPF |      |



|     |      |    |      |     |      |    |      |    |      |
|-----|------|----|------|-----|------|----|------|----|------|
| 17  | CPL0 | 18 | CPL1 | 19  | CPL2 | 20 | CPL3 | 21 | CPL4 |
| 22  | CPL5 | 23 | CPL6 | 24  | CPL7 | .  | .    | .  | .    |
| 1SA | CP7  | E6 | E8   | OTA | MPF  | .  | .    | .  | .    |
| 25  | CPL0 | 26 | CPL1 | 27  | CPL2 | 28 | CPL3 | 29 | CPL4 |
| 30  | CPL5 | 31 | CPL6 | 32  | CPL7 | .  | .    | .  | .    |

339 Logic for terms for indexes 001-008 is on boards 308, 309.  
 Logic for terms for indexes 009-039 is on boards 309, 310.  
 Logic for terms for indexes 040-067 is on boards 311, 312.  
 Logic for terms for indexes 048-120 is on boards 312, 313.

|     |      |     |      |     |      |      |
|-----|------|-----|------|-----|------|------|
| 1SA | CPFS | CP6 | CP5  | E6  | E7   | OTA  |
| 33  | CPL0 | 34  | CPL1 | 35  | CPL2 | 36   |
| 38  | CPL5 | 39  | CPL6 | 40  | CPL7 | 37   |
| 1SA | CPFS | CP6 | E4   | E6  | E7   | MPF  |
| 41  | CPL0 | 41  | CPL1 | 43  | CPL2 | 45   |
| 46  | CPL5 | 47  | CPL6 | 48  | CPL7 | .    |
| 1SA | CP6  | CP5 | E7   | E8  | OTA  | MPF  |
| 49  | CPL0 | 50  | CPL1 | 51  | CPL2 | 52   |
| 54  | CPL5 | 55  | CPL6 | 56  | CPL7 | .    |
| 1SA | CP6  | E6  | E7   | OTA | MPF  | .    |
| 57  | CPL0 | 58  | CPL1 | 59  | CPL2 | 60   |
| 62  | CPL5 | 63  | CPL6 | 64  | CPL7 | CPU0 |

340 Logic for terms for indexes 001-007 is on boards 303, 304, 405.

Logic for terms for indexes 008-037 is on boards 304, 305.  
 Logic for terms for indexes 038-067 is on boards 305, 306.  
 Logic for terms for indexes 068-120 is on boards 307, 038.

|     |      |    |      |     |      |
|-----|------|----|------|-----|------|
| OSA | E4   | E1 | K    | OTA | MPF  |
| 01  | CPU0 | 02 | CPU1 | 03  | 04   |
| 06  | CPU5 | 07 | CPS4 | 08  | CPU0 |
| OSA | E4   | E2 | CP2  | OTA | MPF  |
| 09  | CPU0 | 10 | CPU1 | 11  | 12   |
| 14  | CPU5 | 15 | CPS4 | 16  | CPS5 |
| OSA | E4   | E2 | CP3  | OTA | MPF  |
| 17  | CPU0 | 18 | CPU1 | 19  | 20   |
| 22  | CPU5 | 23 | CPS4 | 24  | CPS5 |
| OSA | E4   | E3 | CP3  | K   | OTA  |
| 25  | CPU0 | 26 | CPU1 | 27  | CPU2 |
| 30  | CPU5 | 31 | CPS4 | 32  | CPS5 |



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Logic for terms for indexes 001-007 is on boards 308, 309.  
 Logic for terms for indexes 008-039 is on boards 309, 310.  
 Logic for terms for indexes 040-048 is on boards 311, 312.  
 Logic for terms for indexes 069-100 is on boards 312, 313.  
 Logic for terms for indexes 101-160 is on board 314.

|     |      |     |      |      |      |     |      |      |      |
|-----|------|-----|------|------|------|-----|------|------|------|
| OSA | E4   | E3  | CP4  | K    | OTA  | MPF |      |      |      |
| 33  | CPU0 | 34  | CPU1 | 35   | CPU2 | 36  | CPU3 | 37   | CPU4 |
| 38  | CPU5 | 39  | CPS4 | 40   | CPS5 |     |      |      |      |
| OSA | E4   | E2  | E1   | CP4  | CP2  | K   | OTA  | MPF  |      |
| 41  | CPU0 | 42  | CPU1 | 43   | CPU2 | 44  | CPU3 | 45   | CPU4 |
| 46  | CPU5 | 47  | CPS4 | 48   | CPS5 |     |      |      |      |
| OSA | E4   | E2  | CP4  | CP3  | K    | OTA | MPF  |      |      |
| 49  | CPU0 | 50  | CPU1 | 51   | CPU2 | 52  | CPU3 | 53   | CPU4 |
| 54  | CPU5 | 55  | CPS4 | 56   | CPS5 |     |      |      |      |
| OSA | E4   | E3  | E1   | CP4  | CP3  | CP2 | K    | OTA  | MPF  |
| 57  | CPU0 | 58  | CPU1 | 59   | CPU2 | 60  | CPU3 | 61   | CPU4 |
| 62  | CPU5 | 63  | CPS4 | 64   | CPS5 |     |      |      |      |
| ISA | E1   | CP6 | E6   | E7   | E8   | OTA | MPF  | CPX  |      |
| CP6 | CPS5 | E8  | CPL7 | EM5  | 1SF  | CP6 | OSF  | CP7  |      |
| OTA | MPF  | CPX | CP7  | CPL7 | EM5  |     |      |      | OSA  |
| E4  | CP7  | CP6 | K    | OTA  | MPF  | CPX | EM6  | CPL7 | EM5  |

342

Logic for terms for indexes 001-012 is on boards 314, 403, 404.  
 Logic for terms for indexes 013-072 is on board 403.  
 Logic for terms for indexes 073-110 is on boards 403, 404.  
 Logic for terms for indexes 111-150 is on board 403.

|      |      |      |      |      |     |     |     |      |      |
|------|------|------|------|------|-----|-----|-----|------|------|
| ISA  | CP7  | CP6  | CP5  | E6   | E8  | 1SF |     |      |      |
| OTA  | MPF  | CPL0 | EM5  | OSF  | E2  | OSF | CP4 | CP3  | CP2  |
| CPL0 | CP4- | CPL4 | EM4  | CPX  | EM6 | OSF | CP4 | CP4  | MPF  |
| OTA  | MPF  | CPL0 | CP3- | CPL2 | EM3 | OSF | CP3 | CP3  | CP3  |
| ISA  | CP7  | CPL0 | CP2- | CPL1 | EM2 |     |     |      |      |
| OTA  | MPF  | CP6  | CP5  | E6   | E8  |     |     |      |      |
| OTA  | MPF  | CPL1 | CP3- | CPL3 | EM4 | OSF | CP4 | CP2  | E1   |
| OTA  | MPF  | CPL1 | CP2  | 1SF  | CP2 | CP4 | OTA | MPF  | CPL1 |
| CP4- | CPL5 | EM3  | CP5  |      |     |     |     |      |      |
| ISA  | CP7  | CP6  | CP6  | E6   | E8  |     |     |      |      |
| MPF  | CPL2 | CP4- | CPL6 | EM2  | OSF | CP4 | E3  | CP2  | OTA  |
| CPL2 | CP3  | CP3  | 1SF  | CP3  | CP2 | OTA | CP3 | OTA  | MPF  |
| ISA  | CP7  | CP6  | CP5  | E6   | E8  |     |     |      |      |
| MPF  | CPL3 | CP4- | CP5  | OSF  | CP4 | CP3 | OTA | MPF  | CPL3 |
| CP3  |      | 1SF  | CP3  | OSF  | CP2 | OTA | MPF | CPL3 | CP2  |

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Logic for terms is on board 404.

|      |     |      |      |     |     |     |     |     |     |
|------|-----|------|------|-----|-----|-----|-----|-----|-----|
| ISA  | CP7 | CP6  | CP5  | E6  | E8  |     |     |     |     |
| OTA  | MPF | CPL4 | CP2- |     | OSF | CP2 | E2  | E1  | CP3 |
| CPL4 | CP4 |      | 1SF  | CP4 | CP3 | OTA | CP4 | OTA | MPF |
| ISA  | CP7 | CP6  | CP5  | E6  | E8  |     |     |     |     |





# Tape stops Marker number

## MAIN MEMORY DYNAMIC CHANNEL TESTS.

Each of the 64 channels is tested for writing and reading a change from 0 to 1 and 1 to 0. All logic and write amps involved in the main memory dynamic channel test have been tested previously in this tape, hence any errors will be caused by the main memory read amps (301 and 302), the read switch boards, network C (323), memory plugs, and memory itself. If an error occurs, replacement of boards should be accomplished first and FADAC retested. If the error persists, removal, cleaning, and resealing of the memory plug specified should be next accomplished and FADAC retested. If the error still persists, the memory itself should be replaced. Place the WR SW in the enable position and connect the memory plug (p9).

346 Logic for channel 1 is on boards 301, 302, 303, 323, and plug P1.

| CHANNEL 000 |     |     |     |     |     |     |   |    |     |
|-------------|-----|-----|-----|-----|-----|-----|---|----|-----|
| OSA         | E7  | E4  | E3  | E1  | K   | .   | . | E5 | MW0 |
| T           | I   | M   | E   | .   | D   | .   | L | A  | Y   |
| OSF         | MMN | MMP | MW0 | E5  | 1SF | E   | L | A  | Y   |
| T           | I   | M   | E   | E5  | D   | MW1 | L | A  | Y   |
| 1TF         | MMN | MMP | OSF | MW1 | 1SF | MW0 | L | A  | Y   |
| T           | I   | M   | E   | .   | D   | E   | L | A  | Y   |
| OTF         | MMN | MMP | .   | .   | .   | .   | . | .  | .   |

| CHANNEL 002 |     |     |     |     |     |     |   |    |     |
|-------------|-----|-----|-----|-----|-----|-----|---|----|-----|
| OSA         | E7  | E4  | E2  | CN2 | CP2 | C2  | K | E5 | MW0 |
| T           | I   | M   | E   | .   | D   | E   | L | A  | Y   |
| OSF         | MMN | MMP | MW0 | E5  | 1SF | MW1 | L | A  | Y   |
| T           | I   | M   | E   | MW1 | D   | E   | L | A  | Y   |
| 1TF         | MMN | MMP | OSF | .   | 1SF | MW0 | L | A  | Y   |
| T           | I   | M   | E   | .   | D   | E   | L | A  | Y   |
| OTF         | MMN | MMP | .   | .   | .   | .   | . | .  | .   |

347 Logic for channel 1 is on board 303, plug P1.

| CHANNEL 004 |     |     |     |     |     |     |    |   |     |
|-------------|-----|-----|-----|-----|-----|-----|----|---|-----|
| OSA         | E7  | E4  | E2  | E1  | CN3 | CP3 | C3 | K | MW0 |
| T           | I   | M   | E   | .   | D   | E   | L  | A | Y   |
| OSF         | MMN | MMP | MW0 | E5  | 1SF | MW1 | L  | A | Y   |
| T           | I   | M   | E   | MW1 | D   | E   | L  | A | Y   |
| 1TF         | MMN | MMP | OSF | .   | 1SF | MW0 | L  | A | Y   |
| T           | I   | M   | E   | .   | D   | E   | L  | A | Y   |
| OTF         | MMN | MMP | .   | .   | .   | .   | .  | . | .   |

CHANNEL 006  
 OSA E7  
 K I  
 T MMN  
 OSF I  
 T MMN  
 1TF MMN  
 T I  
 OTF MMN

E4 M  
 MMP  
 M  
 MMP  
 M  
 MMP

E3 E  
 MW0  
 E  
 OSF  
 E

CN3  
 E5  
 MW1

CP3 D  
 1SF  
 D

C3 E  
 MW1  
 MW0  
 E

CN2 L  
 L  
 L

CP2 E5  
 A  
 A  
 A

C2 MW0  
 Y  
 Y  
 Y

CHANNEL 010  
 OSA E7  
 T I  
 OSF MMN  
 T I  
 1TF MMN  
 T I  
 OTF MMN

E4 M  
 MMP  
 M  
 MMP  
 M  
 MMP

E3 E  
 MW0  
 E  
 OSF  
 E

CN4  
 E5  
 MW1

CP4 D  
 1SF  
 D

C4 E  
 MW1  
 MW0  
 E

K L  
 L  
 L

E5 A  
 A  
 A

MW0 Y  
 Y  
 Y

CHANNEL 012  
 OSA E7  
 C2 K  
 T I  
 OSF MMN  
 T I  
 1TF MMN  
 T I  
 OTF MMN

E4 M  
 MMP  
 M  
 MMP  
 M  
 MMP

E2 E  
 MW0  
 E  
 OSF  
 E

E1  
 E5  
 MW1

CN4  
 D  
 1SF  
 D

CP4 E  
 MW1  
 MW0  
 E

C4 L  
 L  
 L

CN2 E5  
 A  
 A  
 A

CP2 MW0  
 Y  
 Y  
 Y

Logic for channel 1 is on board 304, plug P1.

CHANNEL 014  
 OSA E7  
 K I  
 T MMN  
 OSF I  
 T MMN  
 1TF MMN  
 T I  
 OTF MMN

E4 M  
 MMP  
 M  
 MMP  
 M  
 MMP

E2 E  
 MW0  
 E  
 OSF  
 E

CN4  
 E5  
 MW1

CP4 D  
 1SF  
 D

C4 E  
 MW1  
 MW0  
 E

CN3 L  
 L  
 L

CP3 E5  
 A  
 A  
 A

C3 MW0  
 Y  
 Y  
 Y

# Tape Marker stops number

CHANNEL 016

|     |     |     |     |     |     |     |    |     |     |
|-----|-----|-----|-----|-----|-----|-----|----|-----|-----|
| OSA | E7  | E4  | E3  | E1  | CN4 | CP4 | C4 | CN3 | CP3 |
| C3  | CN2 | CP2 | C2  | K   | D   | E   | L  | E5  | MW0 |
| T   | I   | M   | E   | E5  | TSF | MW1 | L  | A   | Y   |
| OSF | MMN | MMP | MW0 | MW1 | D   | E   | L  | A   | Y   |
| T   | I   | M   | E   | MW1 | TSF | MW0 | L  | A   | Y   |
| 1TF | MMN | MMP | OSF | .   | D   | E   | L  | A   | Y   |
| T   | I   | M   | E   | .   | .   | .   | .  | .   | .   |
| OTF | MMN | MMP | .   | .   | .   | .   | .  | .   | .   |

350

CHANNEL 020

|     |     |     |     |     |     |     |    |    |     |
|-----|-----|-----|-----|-----|-----|-----|----|----|-----|
| OSA | E6  | E4  | CN5 | CP5 | C5  | E3  | E1 | K  | MW0 |
| T   | I   | M   | E   | E5  | D   | E   | L  | E5 | Y   |
| OSF | MMN | MMP | MW0 | MW1 | TSF | MW1 | L  | A  | Y   |
| T   | I   | M   | E   | MW1 | D   | E   | L  | A  | Y   |
| 1TF | MMN | MMP | OSF | .   | TSF | MW0 | L  | A  | Y   |
| T   | I   | M   | E   | .   | D   | E   | L  | A  | Y   |
| OTF | MMN | MMP | .   | .   | .   | .   | .  | .  | .   |

CHANNEL 022

|     |     |     |     |     |     |     |     |     |    |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|----|
| OSA | E6  | E4  | CN5 | CP5 | C5  | E2  | CN2 | CP2 | C2 |
| K   | I   | M   | E   | E5  | D   | E   | L   | E5  | Y  |
| OSF | MMN | MMP | MW0 | MW1 | TSF | MW1 | L   | A   | Y  |
| T   | I   | M   | E   | MW1 | D   | E   | L   | A   | Y  |
| 1TF | MMN | MMP | OSF | .   | TSF | MW0 | L   | A   | Y  |
| T   | I   | M   | E   | .   | D   | E   | L   | A   | Y  |
| OTF | MMN | MMP | .   | .   | .   | .   | .   | .   | .  |

351 Logic for channel 1 is on board 304, plug P2.

CHANNEL 024

|     |     |     |     |     |     |     |    |     |     |
|-----|-----|-----|-----|-----|-----|-----|----|-----|-----|
| OSA | E6  | E4  | CN5 | CP5 | C5  | E2  | E1 | CN3 | CP3 |
| C3  | K   | M   | E   | E5  | D   | E   | L  | E5  | Y   |
| OSF | MMN | MMP | MW0 | MW1 | TSF | MW1 | L  | A   | Y   |
| T   | I   | M   | E   | MW1 | D   | E   | L  | A   | Y   |
| 1TF | MMN | MMP | OSF | .   | TSF | MW0 | L  | A   | Y   |
| T   | I   | M   | E   | .   | D   | E   | L  | A   | Y   |
| OTF | MMN | MMP | .   | .   | .   | .   | .  | .   | .   |



# CHANNEL 026

|     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| OSA | E6  | E4  | CN5 | CP5 | C5  | E3  | CN3 | CP3 | C3  |
| CN2 | CP2 | C2  | K   | .   | .   | E   | .   | E5  | MW0 |
| T   | I   | M   | E   | E5  | D   | MW1 | L   | A   | Y   |
| OSF | MMN | MMP | MW0 | .   | 1SF | E   | .   | .   | .   |
| T   | I   | M   | E   | MW1 | D   | MW0 | L   | A   | .   |
| 1TF | MMN | MMP | OSF | .   | 1SF | E   | L   | A   | .   |
| T   | I   | M   | E   | .   | D   | E   | .   | .   | .   |
| OTF | MMN | MMP | .   | .   | .   | .   | .   | .   | .   |

352 Logic for channel 1 is on board 305, plug P2.

# CHANNEL 030

|     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| OSA | E6  | E4  | CN5 | CP5 | C5  | E3  | CN4 | CP4 | C4  |
| K   | .   | .   | E   | .   | .   | E   | .   | E5  | MW0 |
| T   | I   | M   | MW0 | E5  | 1SF | MW1 | L   | A   | Y   |
| OSF | MMN | MMP | E   | .   | D   | E   | .   | .   | .   |
| T   | I   | M   | OSF | MW1 | 1SF | MW0 | L   | A   | .   |
| 1TF | MMN | MMP | E   | .   | D   | E   | .   | .   | .   |
| T   | I   | M   | E   | .   | .   | .   | .   | .   | .   |
| OTF | MMN | MMP | .   | .   | .   | .   | .   | .   | .   |

# CHANNEL 032

|     |     |     |     |     |     |     |    |     |     |
|-----|-----|-----|-----|-----|-----|-----|----|-----|-----|
| OSA | E6  | E4  | CN5 | CP5 | C5  | E2  | E1 | CN4 | CP4 |
| C4  | CN2 | CP2 | C2  | K   | .   | E   | .  | E5  | MW0 |
| T   | I   | M   | E   | E5  | D   | MW1 | L  | A   | Y   |
| OSF | MMN | MMP | MW0 | .   | 1SF | E   | .  | .   | .   |
| T   | I   | M   | E   | MW1 | D   | MW0 | L  | A   | .   |
| 1TF | MMN | MMP | OSF | .   | 1SF | E   | .  | .   | .   |
| T   | I   | M   | E   | .   | D   | E   | .  | .   | .   |
| OTF | MMN | MMP | .   | .   | .   | .   | .  | .   | .   |

# CHANNEL 034

|     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| OSA | E6  | E4  | CN5 | CP5 | C5  | E2  | CN4 | CP4 | C4  |
| CN3 | CP3 | C3  | K   | .   | .   | E   | .   | E5  | MW0 |
| T   | I   | M   | E   | E5  | D   | MW1 | L   | A   | Y   |
| OSF | MMN | MMP | MW0 | .   | 1SF | E   | .   | .   | .   |
| T   | I   | M   | E   | MW1 | D   | MW0 | L   | A   | .   |
| 1TF | MMN | MMP | OSF | .   | 1SF | E   | .   | .   | .   |
| T   | I   | M   | E   | .   | D   | E   | .   | .   | .   |
| OTF | MMN | MMP | .   | .   | .   | .   | .   | .   | .   |

Tape stops  
Marker  
number

353

--Cont

## CHANNEL 036

|     |     |     |     |     |     |     |    |     |     |
|-----|-----|-----|-----|-----|-----|-----|----|-----|-----|
| OSA | E6  | E4  | CN5 | CP5 | C5  | E3  | E1 | CN4 | CP4 |
| C4  | CN3 | CP3 | C3  | CN2 | CP2 | C2  | K  | E5  | MWO |
| T   | I   | M   | E   | E5  | D   | E   | L  | A   | Y   |
| OSF | MMN | MMP | MWO | E   | TSF | MW1 | L  | A   | Y   |
| T   | I   | M   | E   | MW1 | D   | E   | L  | A   | Y   |
| 1TF | MMN | MMP | OSF | E   | TSF | MWO | L  | A   | Y   |
| T   | I   | M   | E   | .   | D   | E   | L  | A   | Y   |
| OTF | MMN | MMP | .   | .   | .   | .   | .  | .   | .   |

354

## CHANNEL 040

|     |     |     |     |     |     |     |   |    |     |
|-----|-----|-----|-----|-----|-----|-----|---|----|-----|
| OSA | CN6 | CP6 | C6  | E1  | E3  | K   | . | E5 | MWO |
| T   | I   | M   | E   | .   | D   | E   | L | A  | Y   |
| OSF | MMN | MMP | MWO | E5  | TSF | MW1 | L | A  | Y   |
| T   | I   | M   | E   | MW1 | D   | E   | L | A  | Y   |
| 1TF | MMN | MMP | OSF | E   | TSF | MWO | L | A  | Y   |
| T   | I   | M   | E   | .   | D   | E   | L | A  | Y   |
| OTF | MMN | MMP | .   | .   | .   | .   | . | .  | .   |

## CHANNEL 042

|     |     |     |     |     |     |     |    |    |     |
|-----|-----|-----|-----|-----|-----|-----|----|----|-----|
| OSA | CN6 | CP6 | C6  | E2  | CN2 | CP2 | C2 | K  | MWO |
| T   | I   | M   | E   | .   | D   | E   | L  | E5 | Y   |
| OSF | MMN | MMP | MWO | E5  | TSF | MW1 | L  | A  | Y   |
| T   | I   | M   | E   | MW1 | D   | E   | L  | A  | Y   |
| 1TF | MMN | MMP | OSF | E   | TSF | MWO | L  | A  | Y   |
| T   | I   | M   | E   | .   | D   | E   | L  | A  | Y   |
| OTF | MMN | MMP | .   | .   | .   | .   | .  | .  | .   |

355 Logic for channel is on board 306, plug P2.

## CHANNEL 044

|     |     |     |     |     |     |     |     |    |     |
|-----|-----|-----|-----|-----|-----|-----|-----|----|-----|
| OSA | CN6 | CP6 | C6  | E2  | E1  | CN3 | CP3 | C3 | K   |
| T   | I   | M   | E   | .   | D   | E   | L   | E5 | MWO |
| OSF | MMN | MMP | MWO | E5  | TSF | MW1 | L   | A  | Y   |
| T   | I   | M   | E   | MW1 | D   | E   | L   | A  | Y   |
| 1TF | MMN | MMP | OSF | E   | TSF | MWO | L   | A  | Y   |
| T   | I   | M   | E   | .   | D   | E   | L   | A  | Y   |
| OTF | MMN | MMP | .   | .   | .   | .   | .   | .  | .   |

CHANNEL 046  
 OSA CN6  
 C2 K I  
 T MMN  
 OSF I  
 T MMN  
 1TF I  
 T I  
 OTF MMN

CP6  
 M  
 MMP  
 M  
 MMP  
 M  
 MMP

C6  
 E  
 MM0  
 E  
 OSF  
 E

E3  
 E5  
 MW1

CN3  
 D  
 TSF  
 D  
 TSF  
 D

CP3  
 E  
 MW1  
 E  
 MM0  
 E

C3  
 L

CN2  
 E5  
 A

CP2  
 MM0  
 Y

356

CHANNEL 050  
 OSA CN6  
 T I  
 OSF MMN  
 T I  
 1TF MMN  
 T I  
 OTF MMN

CP6  
 M  
 MMP  
 M  
 MMP  
 M  
 MMP

C6  
 E  
 MM0  
 E  
 OSF  
 E

E3  
 E5  
 MW1

CN4  
 D  
 TSF  
 D  
 TSF  
 D

CP4  
 E  
 MW1  
 E  
 MM0  
 E

C4  
 L

K E5  
 A

MM0  
 Y

CHANNEL 052  
 OSA CN6  
 C2 I  
 T MMN  
 OSF I  
 T MMN  
 1TF I  
 T I  
 OTF MMN

CP6  
 K  
 M  
 MMP  
 M  
 MMP  
 M  
 MMP

C6  
 E  
 MM0  
 E  
 OSF  
 E

E2  
 E5  
 MW1

E1  
 D  
 TSF  
 D  
 TSF  
 D

CN4  
 E  
 MW1  
 E  
 MM0  
 E

CP4  
 L

C4  
 E5  
 A

CN2  
 MM0  
 Y

357

CHANNEL 054  
 OSA CN6  
 C3 K I  
 T MMN  
 OSF I  
 T MMN  
 1TF I  
 T I  
 OTF MMN

CP6  
 M  
 MMP  
 M  
 MMP  
 M  
 MMP

C6  
 E  
 MM0  
 E  
 OSF  
 E

E2  
 E5  
 MW1

CN4  
 D  
 TSF  
 D  
 TSF  
 D

CP4  
 E  
 MW1  
 E  
 MM0  
 E

C4  
 L

CN3  
 E5  
 A

CP3  
 MM0  
 Y

CHANNEL 056  
 OSA CN6  
 C3 I  
 T MMN  
 OSF I  
 T MMN  
 1TF I  
 T I  
 OTF MMN

CP6  
 C2  
 M  
 MMP  
 M  
 MMP  
 M  
 MMP

C6  
 CP2  
 E  
 MM0  
 E  
 OSF  
 E

E3  
 C2  
 E5  
 MW1

E1  
 K  
 D  
 TSF  
 D  
 TSF  
 D

CN4  
 E  
 MW1  
 E  
 MM0  
 E

CP4  
 L

C4  
 E5  
 A

CN3  
 MM0  
 Y



Tape stops  
Marker  
number

358

Logic for channel is on board 307, plug P2.

## CHANNEL 060

|     |     |     |     |     |     |     |     |    |     |
|-----|-----|-----|-----|-----|-----|-----|-----|----|-----|
| OSA | E7  | E4  | CN6 | CP6 | C6  | CN5 | CP5 | C5 | E3  |
| E1  | K   | .   | E   | .   | .   | E   | .   | E5 | MW0 |
| T   | I   | M   | MW0 | E5  | D   | MW1 | L   | A  | Y   |
| OSF | MMN | MMP | E   | .   | TSF | E   | .   | .  | .   |
| T   | I   | M   | OSF | MW1 | D   | MW0 | L   | A  | Y   |
| 1TF | MMN | MMP | E   | .   | TSF | E   | .   | .  | .   |
| T   | I   | M   | E   | .   | D   | .   | .   | .  | Y   |
| OTF | MMN | MMP | .   | .   | .   | .   | .   | .  | .   |

## CHANNEL 062

|     |     |     |     |     |     |     |     |    |     |
|-----|-----|-----|-----|-----|-----|-----|-----|----|-----|
| OSA | E7  | E4  | CN6 | CP6 | C6  | CN5 | CP5 | C5 | E2  |
| CN2 | CP2 | C2  | K   | .   | .   | E   | .   | E5 | MW0 |
| T   | I   | M   | E   | E5  | D   | MW1 | L   | A  | Y   |
| OSF | MMN | MMP | MW0 | .   | TSF | E   | .   | .  | .   |
| T   | I   | M   | E   | MW1 | D   | MW0 | L   | A  | Y   |
| 1TF | MMN | MMP | OSF | .   | TSF | E   | .   | .  | .   |
| T   | I   | M   | E   | .   | D   | .   | .   | .  | Y   |
| OTF | MMN | MMP | .   | .   | .   | .   | .   | .  | .   |

359

## CHANNEL 064

|     |     |     |     |     |     |     |     |    |     |
|-----|-----|-----|-----|-----|-----|-----|-----|----|-----|
| OSA | E7  | E4  | CN6 | CP6 | C6  | CN5 | CP5 | C5 | E2  |
| E1  | CN3 | CP3 | C3  | K   | .   | E   | .   | E5 | MW0 |
| T   | I   | M   | E   | E5  | D   | MW1 | L   | A  | Y   |
| OSF | MMN | MMP | MW0 | .   | TSF | E   | .   | .  | .   |
| T   | I   | M   | E   | MW1 | D   | MW0 | L   | A  | Y   |
| 1TF | MMN | MMP | OSF | .   | TSF | E   | .   | .  | .   |
| T   | I   | M   | E   | .   | D   | .   | .   | .  | Y   |
| OTF | MMN | MMP | .   | .   | .   | .   | .   | .  | .   |

## CHANNEL 066

|     |     |     |     |     |     |     |     |    |     |
|-----|-----|-----|-----|-----|-----|-----|-----|----|-----|
| OSA | E7  | E4  | CN6 | CP6 | C6  | CN5 | CP5 | C5 | E3  |
| CN3 | CP3 | C3  | CN2 | CP2 | C2  | K   | .   | E5 | MW0 |
| T   | I   | M   | E   | E5  | D   | E   | L   | A  | Y   |
| OSF | MMN | MMP | MW0 | .   | TSF | MW1 | .   | .  | .   |
| T   | I   | M   | E   | MW1 | D   | E   | L   | A  | Y   |
| 1TF | MMN | MMP | OSF | .   | TSF | MW0 | L   | A  | Y   |
| T   | I   | M   | E   | .   | D   | E   | .   | .  | .   |
| OTF | MMN | MMP | .   | .   | .   | .   | .   | .  | .   |

360

CHANNEL 070  
 OSA E7  
 CN4 CP4  
 T I  
 OSF MMN  
 T I  
 TTF MMN  
 T I  
 OTF MMN

E4  
 C4 M  
 MMP  
 M  
 MMP  
 M  
 MMP

CN6  
 K E  
 MW0  
 E  
 OSF  
 E

CP6  
 .  
 E5  
 MW1  
 .

C6  
 . D  
 1SF  
 D  
 1SF  
 D

CN5  
 .  
 MW1  
 E  
 MW0  
 E

CP5  
 . L  
 . L  
 . L  
 .

C5  
 E5 A  
 . A  
 . A  
 .

E3  
 MW0 Y  
 . Y  
 . Y  
 .

CHANNEL 072

OSA E7  
 E1 CN4  
 T I  
 OSF MMN  
 T I  
 TTF MMN  
 T I  
 OTF MMN

E4  
 CP4 M  
 MMP  
 M  
 MMP  
 M  
 MMP

CN6  
 C4 E  
 MW0  
 E  
 OSF  
 E

CP6  
 CN2  
 E5  
 MW1  
 .

C6  
 CP2 D  
 1SF  
 D  
 1SF  
 D

CN5  
 C2 E  
 MW1  
 E  
 MW0  
 E

CP5  
 K L  
 . L  
 . L  
 .

C5  
 E5 A  
 . A  
 . A  
 .

E2  
 MW0 Y  
 . Y  
 . Y  
 .

361 Logic for channel is on board 308, plug P2.

CHANNEL 074

OSA E7  
 CN4 CP4  
 T I  
 OSF MMN  
 T I  
 TTF MMN  
 T I  
 OTF MMN

E4  
 C3 M  
 MMP  
 M  
 MMP  
 M  
 MMP

CN6  
 CN3 E  
 MW0  
 E  
 OSF  
 E

CP6  
 CP3  
 E5  
 MW1  
 .

C6  
 C3 D  
 1SF  
 D  
 1SF  
 D

CN5  
 K E  
 MW1  
 E  
 MW0  
 E

CP5  
 . L  
 . L  
 . L  
 .

C5  
 E5 A  
 . A  
 . A  
 .

E2  
 MW0 Y  
 . Y  
 . Y  
 .

CHANNEL 076

OSA E4  
 E7 CN6  
 CP4 C4  
 T I  
 OSF MMN  
 T I  
 TTF MMN  
 T I  
 OTF MMN

K CP6  
 CN3 M  
 MMP  
 M  
 MMP  
 M  
 MMP

C6  
 CP3 E  
 MW0  
 E  
 OSF  
 E

CN5  
 C3  
 E5  
 MW1  
 .

CP5  
 CN2 D  
 1SF  
 D  
 1SF  
 D

C5  
 CP2 E  
 MW1  
 E  
 MW0  
 E

E3  
 C2 L  
 . L  
 . L  
 .

E1  
 E5 A  
 . A  
 . A  
 .

CN4  
 MW0 Y  
 . Y  
 . Y  
 .

Tape stops Marker  
number

362

Logic for channel 1 is on board 308, plug P2.

CHANNEL 100  
OSA E8  
T I  
OSF MMN  
T I  
TTF MMN  
T I  
OTF MMN

E4  
M  
MMP  
M  
MMP  
M  
MMP

CN7  
E  
MW0  
E  
OSF  
E

CP7  
E5  
MW1  
E

C7  
D  
TSF  
D  
TSF  
D

E3  
E  
MW1  
E  
MW0  
E

E1  
L  
L  
L  
L

K  
E5  
A  
A  
A  
A

MW0  
Y  
Y  
Y  
Y

CHANNEL 102  
OSA E8  
K I  
T MMN  
OSF I  
T MMN  
TTF I  
T MMN  
OTF MMN

E4  
M  
MMP  
M  
MMP  
M  
MMP

CN7  
E  
MW0  
E  
OSF  
E

CP7  
E5  
MW1  
E

C7  
D  
TSF  
D  
TSF  
D

E2  
E  
MW1  
E  
MW0  
E

CN2  
L  
L  
L  
L

CP2  
E5  
A  
A  
A  
A

C2  
MW0  
Y  
Y  
Y  
Y

363

CHANNEL 104  
OSA E8  
C3 K  
T I  
OSF MMN  
T I  
TTF MMN  
T I  
OTF MMN

E4  
M  
MMP  
M  
MMP  
M  
MMP

CN7  
E  
MW0  
E  
OSF  
E

CP7  
E5  
MW1  
E

C7  
D  
TSF  
D  
TSF  
D

E2  
E  
MW1  
E  
MW0  
E

E1  
L  
L  
L  
L

CN3  
E5  
A  
A  
A  
A

CP3  
MW0  
Y  
Y  
Y  
Y

CHANNEL 106  
OSA E8  
CN2 CP2  
T I  
OSF MMN  
T I  
TTF MMN  
T I  
OTF MMN

E4  
C2  
M  
MMP  
M  
MMP  
M  
MMP

CN7  
K  
E  
MW0  
E  
OSF  
E

CP7  
E5  
MW1  
E

C7  
D  
TSF  
D  
TSF  
D

E3  
E  
MW1  
E  
MW0  
E

CN3  
L  
L  
L  
L

CP3  
E5  
A  
A  
A  
A

C3  
MW0  
Y  
Y  
Y  
Y



364

Logic for channel 1 is on board 309, plug P2.

CHANNEL 110

|     |     |     |     |      |     |      |     |     |     |
|-----|-----|-----|-----|------|-----|------|-----|-----|-----|
| OSA | E8  | E4  | CN7 | CP7  | C7  | E3   | CN4 | CP4 | C4  |
| K   | I   | M   | E   | .    | D   | E    | L   | A   | MMO |
| T   | MMN | MMP | MMO | E5   | 1SF | MMW1 | .   | .   | Y   |
| OSF | I   | M   | E   | .    | D   | E    | L   | A   | Y   |
| T   | MMN | MMP | OSF | MMW1 | 1SF | MMO  | L   | A   | Y   |
| 1TF | I   | M   | E   | .    | D   | E    | .   | .   | .   |
| T   | MMN | MMP | .   | .    | .   | .    | .   | .   | .   |
| OTF | MMN | MMP | .   | .    | .   | .    | .   | .   | .   |

CHANNEL 112

|     |     |     |     |     |     |      |    |     |     |
|-----|-----|-----|-----|-----|-----|------|----|-----|-----|
| OSA | E8  | E4  | CN7 | CP7 | C7  | E2   | E1 | CN4 | CP4 |
| C4  | CN2 | CP2 | C2  | K   | D   | E    | L  | A   | MMO |
| T   | I   | M   | E   | E5  | 1SF | MMW1 | .  | .   | Y   |
| OSF | MMN | MMP | MMO | .   | .   | .    | .  | .   | .   |

365

CHANNEL 114

|     |     |     |     |      |     |      |     |     |     |
|-----|-----|-----|-----|------|-----|------|-----|-----|-----|
| OSA | E8  | E4  | CN7 | CP7  | C7  | E2   | CN4 | CP4 | C4  |
| CN3 | CP3 | C3  | K   | .    | D   | E    | L   | A   | MMO |
| T   | I   | M   | E   | E5   | 1SF | MMW1 | .   | .   | Y   |
| OSF | MMN | MMP | MMO | .    | D   | E    | L   | A   | Y   |
| T   | I   | M   | E   | MMW1 | 1SF | MMO  | .   | .   | Y   |
| 1TF | MMN | MMP | OSF | .    | D   | E    | L   | A   | Y   |
| T   | I   | M   | E   | .    | .   | .    | L   | A   | Y   |
| OTF | MMN | MMP | E   | .    | D   | E    | .   | A   | Y   |
| T   | I   | M   | OSF | MMW1 | 1SF | MMO  | L   | A   | Y   |
| 1TF | MMN | MMP | E   | .    | .   | .    | .   | .   | .   |
| T   | I   | M   | E   | .    | .   | .    | .   | .   | .   |
| OTF | MMN | MMP | .   | .    | .   | .    | .   | .   | .   |

CHANNEL 116

|     |     |     |     |      |     |      |    |    |     |
|-----|-----|-----|-----|------|-----|------|----|----|-----|
| OSA | E8  | E4  | CN7 | CP7  | C7  | E3   | E1 | K  | CN4 |
| CP4 | C4  | CN3 | CP3 | C3   | CN2 | CP2  | C2 | E5 | MMO |
| T   | I   | M   | E   | E5   | D   | E    | L  | A  | Y   |
| OSF | MMN | MMP | MMO | .    | 1SF | MMW1 | .  | A  | Y   |
| T   | I   | M   | E   | MMW1 | D   | E    | L  | A  | Y   |
| 1TF | MMN | MMP | OSF | .    | 1SF | MMO  | .  | A  | Y   |
| T   | I   | M   | E   | .    | D   | E    | L  | .  | .   |
| OTF | MMN | MMP | .   | .    | .   | .    | .  | .  | .   |

Tape stops  
Marker number

366

CHANNEL 120  
OSA .  
CN7 .  
CP7 .  
C7 .  
CN5 .  
CP5 .  
C5 .  
F3 .  
E1  
E5

MMN  
I  
MMP  
M  
MMP  
M  
MMP  
M  
MMP  
MMP

MMN  
I  
MMN  
I  
MMN  
I  
MMN

MMO  
Y  
.  
.  
.  
Y  
.

CHANNEL 122

OSA .  
CN7 .  
CP7 .  
C7 .  
CN5 .  
CP5 .  
C5 .  
E2 .  
CN2  
E5

MMN  
I  
MMP  
M  
MMP  
M  
MMP  
M  
MMP  
MMP

MMN  
I  
MMN  
I  
MMN  
I  
MMN

MMO  
Y  
.  
.  
.  
Y  
.

367

Logic for channel 1 is on board 310, plug P5.

CHANNEL 124

OSA .  
CN7 .  
CP7 .  
C7 .  
CN5 .  
CP5 .  
C5 .  
E2 .  
CN3  
E5

MMN  
I  
MMP  
M  
MMP  
M  
MMP  
M  
MMP  
MMP

MMN  
I  
MMN  
I  
MMN  
I  
MMN

MMO  
Y  
.  
.  
.  
Y  
.

CHANNEL 126

OSA .  
CN7 .  
CP7 .  
C7 .  
CN5 .  
CP5 .  
C5 .  
E3 .  
CN3  
E5

MMN  
I  
MMP  
M  
MMP  
M  
MMP  
M  
MMP  
MMP

MMN  
I  
MMN  
I  
MMN  
I  
MMN

MMO  
Y  
.  
.  
.  
Y  
.

368

CHANNEL 130  
OSA CN7  
C4 K I  
T MN  
OSF I  
T MN  
TTF MN  
T I  
OTF MN

CP7 M  
MMP  
M  
MMP  
M  
MMP  
MMP

C7 E  
MMO  
E  
OSF  
E

CN5  
E5  
MW1

CP5 D  
TSF  
D  
TSF  
D

C5 E  
MW1  
E  
MMO  
E

E3 L  
L  
L  
L

CN4 E5 A  
A  
A

CP4 MM0 Y  
Y  
Y

CHANNEL 132  
OSA CN7  
CP4 C4 I  
T MN  
OSF I  
T MN  
TTF MN  
T I  
OTF MN

CP7 CN2 M  
MMP  
M  
MMP  
M  
MMP  
MMP

C7 CP2 E  
MMO  
E  
OSF  
E

CN5 K  
E5  
MW1

CP5 D  
TSF  
D  
TSF  
D

C5 E  
MW1  
E  
MMO  
E

E2 L  
L  
L  
L

E1 E5 A  
A  
A

CN4 MM0 Y  
Y  
Y

369

CHANNEL 134  
OSA CN7  
C4 CN3 I  
T MN  
OSF I  
T MN  
TTF MN  
T I  
OTF MN

CP7 CP3 M  
MMP  
M  
MMP  
M  
MMP  
MMP

C7 C3 E  
MMO  
E  
OSF  
E

CN5 K  
E5  
MW1

CP5 D  
TSF  
D  
TSF  
D

C5 E  
MW1  
E  
MMO  
E

E2 L  
L  
L  
L

CN4 E5 A  
A  
A

CP4 MM0 Y  
Y  
Y

CHANNEL 136  
OSA CN7  
K C4 I  
CP4 T MN  
OSF I  
T MN  
TTF MN  
T I  
OTF MN

CP7 CN3 M  
MMP  
M  
MMP  
M  
MMP  
MMP

C7 CP3 E  
MMO  
E  
OSF  
E

CN5 C3  
E5  
MW1

CP5 CN2 D  
TSF  
D  
TSF  
D

C5 CP2 E  
MW1  
E  
MMO  
E

E3 C2 L  
L  
L

E1 E5 A  
A  
A

CN4 MM0 Y  
Y  
Y



Tape  
stops

Marker  
number

370

Logic for channel is on board 311, plug P6.

CHANNEL 300  
OSA E6  
E1 K I  
T I  
OSF MMN  
T I  
TTF MMN  
T I  
OTF MMN

E4  
M  
MMP  
M  
MMP  
M  
MMP

CN7  
E  
MMO  
E  
OSF  
E

CP7  
E5  
MM1

C7  
D  
TSF  
D  
TSF  
D

CFS  
E  
MM1  
E  
MMO  
E

CPFS  
L  
L  
L  
L

CFSW  
E5  
A  
A  
A

E3  
MMO  
Y  
Y  
Y

CHANNEL 302  
OSA E6  
CN2 CP2 I  
T I  
OSF MMN  
T I  
TTF MMN  
T I  
OTF MMN

E4  
C2 M  
MMP  
M  
MMP  
M  
MMP

CN7  
K  
E  
MMO  
E  
OSF  
E

CP7  
E5  
TSF

C7  
D  
TSF  
D  
MMO  
D

CFS  
E  
MM1  
E  
E

CPFS  
L  
L  
L  
L

CFSW  
E5  
A  
A  
A

E2  
MMO  
Y  
Y  
Y

371

CHANNEL 304  
OSA E6  
E1 CN3 I  
T I  
OSF MMN  
T I  
TTF MMN  
T I  
OTF MMN

E4  
CP3 M  
MMP  
M  
MMP  
M  
MMP

CN7  
C3  
E  
MMO  
E  
OSF  
E

CP7  
K  
E5  
MM1

C7  
D  
TSF  
D  
TSF  
D

CFS  
E  
MM1  
E  
MMO  
E

CPFS  
L  
L  
L  
L

CFSW  
E5  
A  
A  
A

E2  
MMO  
Y  
Y  
Y

CHANNEL 306  
OSA E6  
CN3 CP3 I  
T I  
OSF MMN  
T I  
TTF MMN  
T I  
OTF MMN

E4  
C3 M  
MMP  
M  
MMP  
M  
MMP

CN7  
CN2  
E  
MMO  
E  
OSF  
E

CP7  
CP2  
E5  
MM1

C7  
C2  
D  
TSF  
D  
TSF  
D

CFS  
K  
E  
MM1  
E  
MMO  
E

CPFS  
L  
L  
L  
L

CFSW  
E5  
A  
A  
A

E3  
MMO  
Y  
Y  
Y

372

## CHANNEL 310

|     |     |     |     |     |     |      |      |     |
|-----|-----|-----|-----|-----|-----|------|------|-----|
| OSA | E6  | E4  | CP7 | C7  | CFS | CPFS | CFSW | E3  |
| CN4 | CP4 | C4  | .   | D   | E   | L    | E5   | MMO |
| T   | I   | E   | E5  | TSF | MM1 | .    | A    | Y   |
| OSF | MMN | M   | .   | D   | E   | L    | .    | .   |
| T   | I   | M   | MM1 | TSF | MMO | .    | A    | Y   |
| 1TF | MMN | OSF | .   | D   | E   | L    | A    | Y   |
| T   | I   | E   | .   | .   | .   | .    | .    | .   |
| OTF | MMN | MMP | .   | .   | .   | .    | .    | .   |

## CHANNEL 312

|     |     |     |     |     |     |      |      |     |
|-----|-----|-----|-----|-----|-----|------|------|-----|
| OSA | E6  | E4  | CP7 | C7  | CFS | CPFS | CFSW | E2  |
| E1  | CN4 | CP4 | CN2 | CP2 | C2  | K    | E5   | MMO |
| T   | I   | M   | E5  | D   | E   | L    | A    | Y   |
| OSF | MMN | MMP | .   | TSF | MM1 | .    | .    | .   |
| T   | I   | M   | MM1 | D   | E   | L    | A    | Y   |
| 1TF | MMN | MMP | MM1 | TSF | MMO | .    | A    | Y   |
| T   | I   | M   | .   | D   | E   | L    | .    | .   |
| OTF | MMN | MMP | .   | .   | .   | .    | .    | .   |

373 Logic for channel is on board 312, plug P6.

## CHANNEL 314

|     |     |     |     |     |     |      |      |     |
|-----|-----|-----|-----|-----|-----|------|------|-----|
| OSA | E6  | E4  | CP7 | C7  | CFS | CPFS | CFSW | E2  |
| CN4 | CP4 | C4  | CP3 | C3  | K   | .    | E5   | MMO |
| T   | I   | M   | E5  | D   | E   | L    | A    | Y   |
| OSF | MMN | MMP | .   | TSF | MM1 | .    | .    | .   |
| T   | I   | M   | MM1 | D   | E   | L    | A    | Y   |
| 1TF | MMN | MMP | MM1 | TSF | MMO | .    | A    | Y   |
| T   | I   | M   | .   | D   | E   | .    | .    | .   |
| OTF | MMN | MMP | .   | .   | .   | .    | .    | .   |

## CHANNEL 316

|     |     |     |     |      |      |    |    |     |
|-----|-----|-----|-----|------|------|----|----|-----|
| OSA | E6  | K   | CP7 | CPFS | CFSW | E3 | E1 | CN4 |
| E4  | CN7 | CP7 | C3  | C2   | CP2  | C2 | E5 | MMO |
| CP4 | C4  | E   | E5  | D    | E    | L  | A  | Y   |
| T   | I   | M   | .   | TSF  | MM1  | .  | .  | .   |
| OSF | MMN | MMP | MM1 | D    | E    | L  | A  | Y   |
| T   | I   | M   | MM1 | TSF  | MMO  | .  | .  | .   |
| 1TF | MMN | MMP | MM1 | D    | E    | L  | A  | Y   |
| T   | I   | M   | .   | .    | .    | .  | .  | .   |
| OTF | MMN | MMP | .   | .    | .    | .  | .  | .   |

Tape stops Marker  
number

374

CHANNEL 320  
OSA E8  
CPFS CFSW  
T I  
OSF MN  
T I  
TTF MN  
T I  
OTF MN

E4  
E3 M  
MMP  
M  
MMP  
M  
MMP

CN7 E1 E  
E3 M  
E4 M  
E5 M  
E6 M  
E7 M  
E8 M

CP7 K  
E1 E  
E2 E  
E3 E  
E4 E  
E5 E  
E6 E  
E7 E  
E8 E

C7  
E1 E  
E2 E  
E3 E  
E4 E  
E5 E  
E6 E  
E7 E  
E8 E

CN5  
E1 E  
E2 E  
E3 E  
E4 E  
E5 E  
E6 E  
E7 E  
E8 E

CP5  
E1 E  
E2 E  
E3 E  
E4 E  
E5 E  
E6 E  
E7 E  
E8 E

C5 E5 A  
E6 A  
E7 A  
E8 A

CFS  
MMO Y  
Y  
Y  
Y  
Y

CHANNEL 322

OSA E8  
CPFS CFSW  
T I  
OSF MN  
T I  
TTF MN  
T I  
OTF MN

E4  
E2 M  
MMP  
M  
MMP  
M  
MMP

CN7 E1 E  
E2 E  
E3 E  
E4 E  
E5 E  
E6 E  
E7 E  
E8 E

CP7 CP2  
E1 E  
E2 E  
E3 E  
E4 E  
E5 E  
E6 E  
E7 E  
E8 E

C7 C2  
E1 E  
E2 E  
E3 E  
E4 E  
E5 E  
E6 E  
E7 E  
E8 E

CN5 K  
E1 E  
E2 E  
E3 E  
E4 E  
E5 E  
E6 E  
E7 E  
E8 E

CP5  
E1 E  
E2 E  
E3 E  
E4 E  
E5 E  
E6 E  
E7 E  
E8 E

C5 E5 A  
E6 A  
E7 A  
E8 A

CFS  
MMO Y  
Y  
Y  
Y  
Y

375

CHANNEL 324  
OSA E8  
CPFS CFSW  
T I  
OSF MN  
T I  
TTF MN  
T I  
OTF MN

E4  
E2 M  
MMP  
M  
MMP  
M  
MMP

CN7 E1 E  
E2 E  
E3 E  
E4 E  
E5 E  
E6 E  
E7 E  
E8 E

CP7 CN3  
E1 E  
E2 E  
E3 E  
E4 E  
E5 E  
E6 E  
E7 E  
E8 E

C7 CP3  
E1 E  
E2 E  
E3 E  
E4 E  
E5 E  
E6 E  
E7 E  
E8 E

CN5 C3  
E1 E  
E2 E  
E3 E  
E4 E  
E5 E  
E6 E  
E7 E  
E8 E

CP5 K  
E1 E  
E2 E  
E3 E  
E4 E  
E5 E  
E6 E  
E7 E  
E8 E

C5 E5 A  
E6 A  
E7 A  
E8 A

CFS  
MMO Y  
Y  
Y  
Y  
Y

CHANNEL 326

OSA K  
F8 E4  
CFSW E3  
T I  
OSF MN  
T I  
TTF MN  
T I  
OTF MN

E4  
E3 M  
MMP  
M  
MMP  
M  
MMP

CN7 CN3  
E1 E  
E2 E  
E3 E  
E4 E  
E5 E  
E6 E  
E7 E  
E8 E

CP7 CP3  
E1 E  
E2 E  
E3 E  
E4 E  
E5 E  
E6 E  
E7 E  
E8 E

C7 C3  
E1 E  
E2 E  
E3 E  
E4 E  
E5 E  
E6 E  
E7 E  
E8 E

CN5 CN2  
E1 E  
E2 E  
E3 E  
E4 E  
E5 E  
E6 E  
E7 E  
E8 E

CP5 CP2  
E1 E  
E2 E  
E3 E  
E4 E  
E5 E  
E6 E  
E7 E  
E8 E

C5 C2  
E1 E  
E2 E  
E3 E  
E4 E  
E5 E  
E6 E  
E7 E  
E8 E

CFS  
MMO Y  
Y  
Y  
Y  
Y

376

Logic for channel1 is on board 313, plug P6.

**CHANNEL 330**

| Channel | OS | CPFS | E8 | CFSW |
|---------|----|------|----|------|
| 1       | T  | OSF  | I  | MMN  |
| 2       | T  | T    | I  | MMN  |
| 3       | T  | TTF  | I  | MMN  |
| 4       | T  | OTF  | I  | MMN  |

E4  
E3  
M  
MMP  
M  
MMP  
M  
MMP

CN7  
CN4  
E  
MWO  
E  
OSF  
E .

CP7  
CP4  
E5  
MW7  
.  
.

C7  
C4 D  
1SF D  
1SF D .

CN5 K E MW1 E MW0 E .

CP5 . I . I . I .

C5  
E5 A . A . A .

CFS  
MWO    Y    · Y    · Y    ·

CHANNEL 332

| Channel | SSZ |
|---------|-----|
| OSA     | E8  |
| E4      | CN7 |
| E2      | E1  |
| T       | I   |
| OSF     | MMN |
| T       | I   |
| 1TF     | MMN |
| T       | I   |
| OTF     | MMN |

K  
CP7  
CN4  
M  
MMP  
M  
MMP  
M  
MMP

C7  
CP4  
E  
MWO  
E  
OSF  
E .

CN5  
C4      E5      MW7      .      .

CP5  
CN2  
D  
TSF  
D  
TSF  
D .

C5 CP2 MW7 MW0

• CFS  
C2 1 1 1 1

CPFS  
E5 A . A . A .

CFSI  
MWO

377

CHANNEL 334

| Channel | Frequency | Mode | Power | Antenna | Notes |
|---------|-----------|------|-------|---------|-------|
| OSF     | 10.0      | K    | 100W  | 1       | OSF   |
| E8      | 10.1      | E4   | 100W  | 1       | E8    |
| CFSW    | 10.2      | E2   | 100W  | 1       | CFSW  |
| T       | 10.3      | I    | 100W  | 1       | T     |
| OSF     | 10.4      | MMN  | 100W  | 1       | OSF   |
| T       | 10.5      | I    | 100W  | 1       | T     |
| 1TF     | 10.6      | MMN  | 100W  | 1       | 1TF   |
| T       | 10.7      | I    | 100W  | 1       | T     |
| OTF     | 10.8      | MMN  | 100W  | 1       | OTF   |

CN7  
 CN4  
 M  
 MMP  
 M  
 MMP  
 M  
 MMP

CP7  
CP4  
E MWO  
E OSF  
E .

C7 C4 E5 MW7 . .

• CN5  
CN3  
D  
TSF  
D  
TSF  
D •

CP5  
CP3  
E MW7 E  
MW0 E .

. . . L . L .

CF5 A A A

CPFS  
MWO  
Y    Y    Y    .

CHANNEL 336

|     |     |
|-----|-----|
| OSA | E8  |
| C7  | CN5 |
| CP4 | C4  |
| T   | I   |
| OSF | MMN |
| T   | I   |
| ITF | MMN |
| T   | I   |
| OTF | MMN |

E4  
CP5  
CN3  
M  
MMP  
M  
MMP  
M  
MMP

CN7  
C5  
CP3  
E  
MWO  
E  
OSF  
E .

CP7  
CFS  
C3      E5      MW1      .      .

K  
CP  
CN2  
D  
TSF  
D  
TSF  
D .

CFSW  
CP2  
E MW7  
E MW0  
E .

• 321 •

E1  
E5 A . A . A .

$$\begin{array}{cccc} \cdot & & & \\ \text{CN}4 & & & \\ \text{MWO} & \text{Y} & \cdot \text{Y} & \cdot \text{Y} \cdot \end{array}$$



Tape stops  
Marker number

CH 378

# DYNAMIC TESTS OF RECIRCULATING REGISTERS.

Logic for terms for indexes 001-016 is on boards 313, 438, plug P1.  
 Logic for terms for indexes 017-036 is on boards 311, 435, plug P1.  
 Logic for terms for indexes 037-056 is on boards 310, 436, plug P1.  
 Logic for terms for indexes 057-076 is on boards 305, 435, plug P1.  
 Logic for terms for indexes 077-098 is on boards 306, 307, 437, plug P1.  
 Logic for terms for indexes 099-118 is on boards 308, 309, 439, plug P1.  
 Logic for terms for indexes 119-136 is on boards 312, 438, plug P1.  
 Logic for terms for indexes 137-160 is on boards 304, 436, plug P1.

|     |     |     |    |     |     |     |
|-----|-----|-----|----|-----|-----|-----|
| OSA | A32 | 1TF | A0 | OSF | A32 | OTF |
| A0  | A32 | 1TF | A0 | OSF | .   | .   |
| OSA | L32 | 1TF | L0 | OSF | .   | OTF |
| L0  | L32 | 1TF | L0 | OSF | .   | .   |
| OSA | NP  | 1TF | N0 | OSF | .   | OTF |
| N0  | NP  | 1TF | N0 | OSF | .   | .   |
| OSA | OP  | 1TF | D0 | OSF | .   | OTF |
| O0  | OP  | 1TF | D0 | OSF | .   | .   |
| OSA | DP  | 1TF | R0 | OSF | .   | .   |
| OTF | DP  | 1TF | R0 | OSF | .   | .   |
| OSA | RM  | 1SF | Q0 | OSF | RP  | .   |
| OTF | RM  | 1SF | Q0 | OSF | RM  | .   |
| OSA | QP  | 1SF | IX | OSF | OP  | .   |
| OTF | QP  | 1SF | IX | OSF | QM  | .   |
| OSA | I32 | .   | IX | OSF | .   | OTF |
| IX  | I32 | .   | IX | OSF | .   | .   |
| OSA | XP  | .   | X0 | OSF | .   | OTF |
| X0  | XP  | .   | X0 | OSF | .   | .   |

End of tape E. Momentarily place the SDR TAPE ADVANCE switch in the ON position, advance the tape into the takeup canister and return it to the tape cartridge.

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*General, United States Army*  
*Chief of Staff*

Official:

J. C. PENNINGTON  
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